



#7 SV
JLG

Attorney Docket No.: VNI-018

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Pickett et al.

Notice of Allow. Mailed: August 1, 2002

Serial No.: 09/849,326

Filed: May 4, 2001

Examiner: Vincent, D.

For: Systems and Methods for Multiple
Mode Voice and Data Communications
Using Intelligently Bridged TDM and Packet
Buses and Methods for Performing
Telephony and Data Functions Using the
Same

Group Art Unit: 2661

Commissioner of Patents and Trademarks
Washington, D.C. 20231

ATTENTION: Official Draftsperson

TRANSMITTAL OF FORMAL DRAWINGS

Applicant hereby submits SEVENTY-SEVEN (77) sheets of Formal drawings for filing in the above-identified application. A Notice of Allowance was mailed August 1, 2002, and the issue fee payment is being submitted concurrently herewith.

Respectfully submitted,

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Date: 11/1/02
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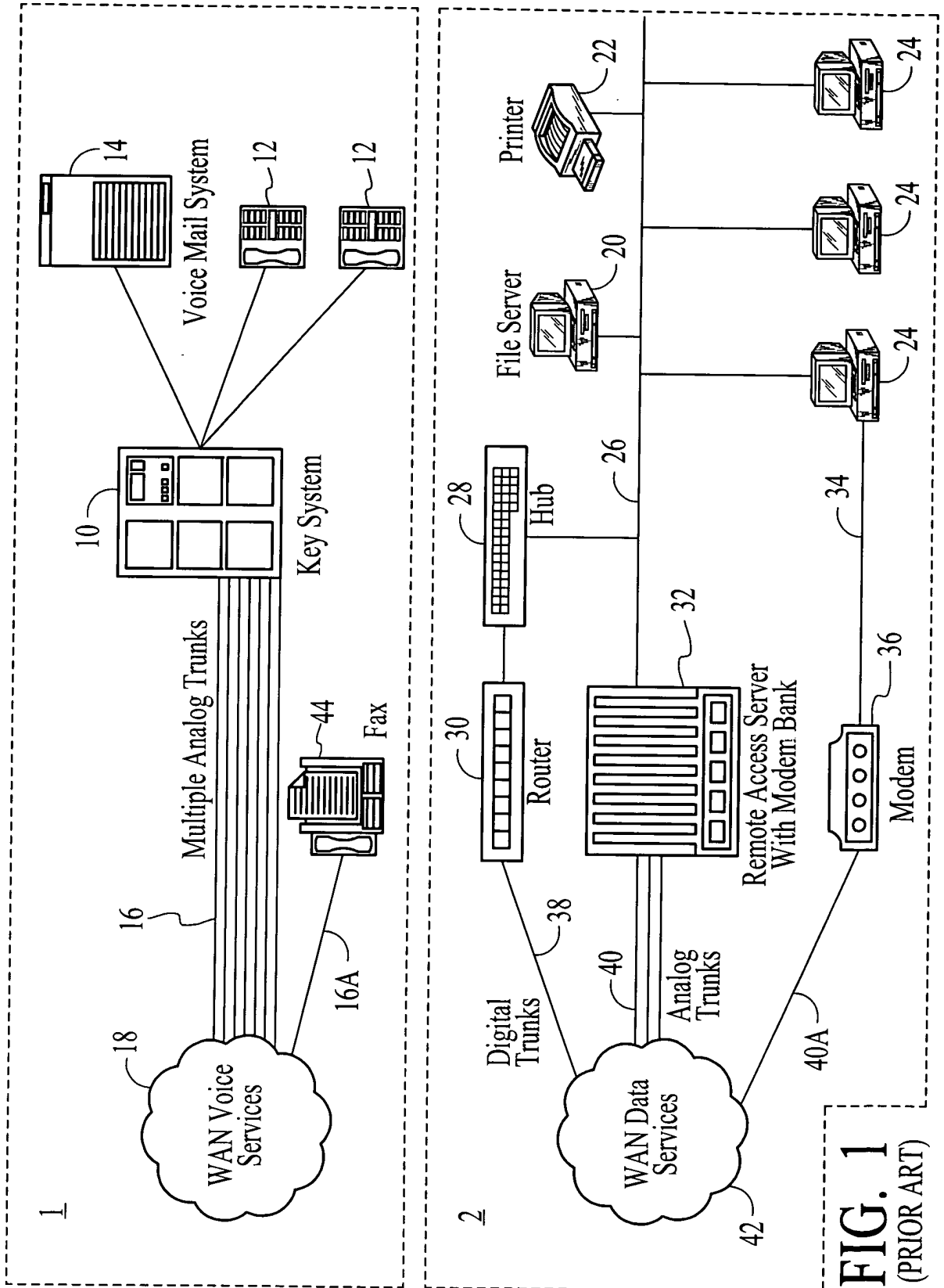
CERTIFICATE OF MAILING

I hereby certify that the foregoing is being deposited with the U.S. Postal Service, postage prepaid, to Box Issue Fee, Assistant Commissioner for Patents, Washington, DC 20231 this 1 day of Nov., 2002.

Alan R. Loudermilk

08.02

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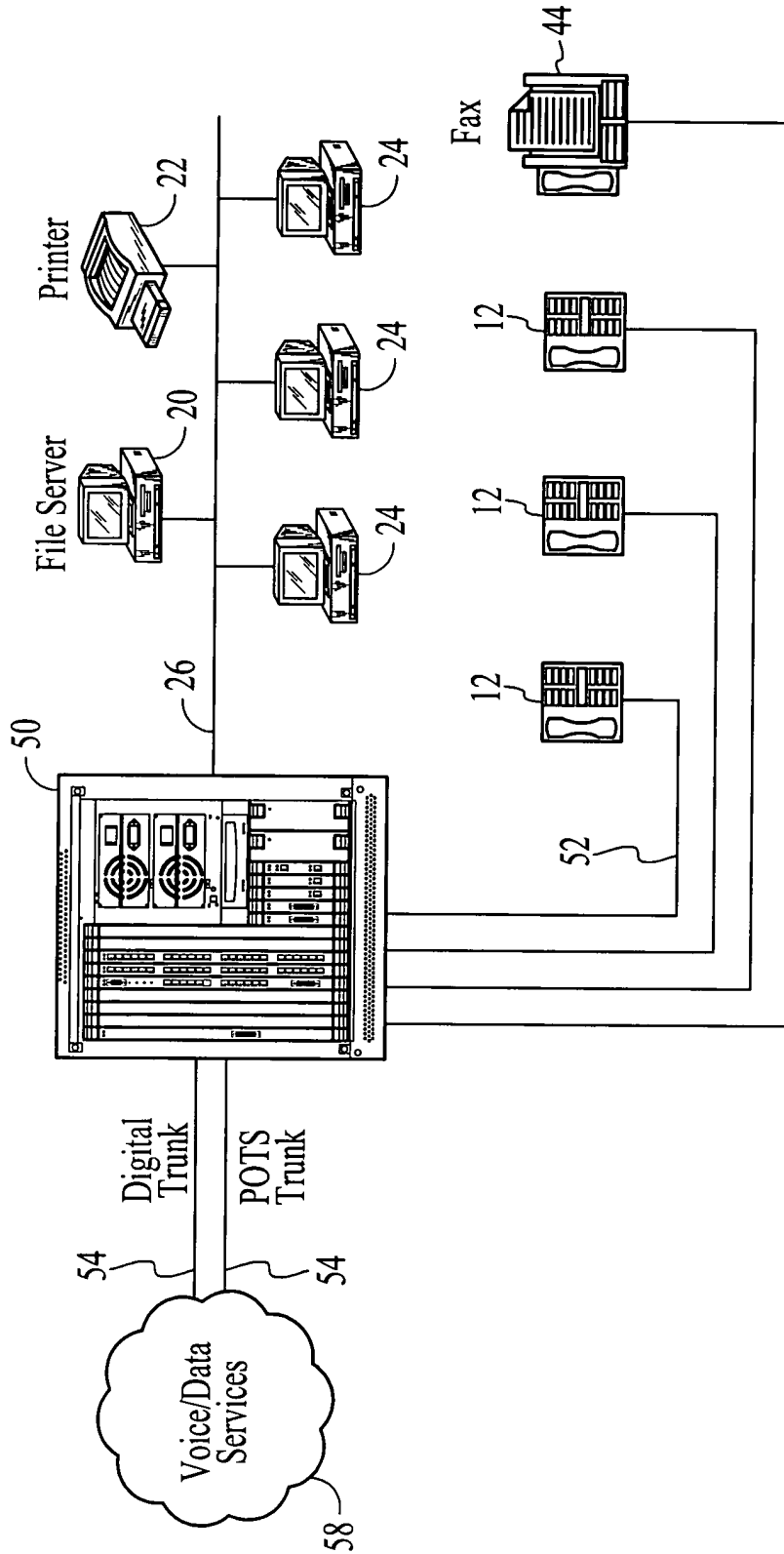
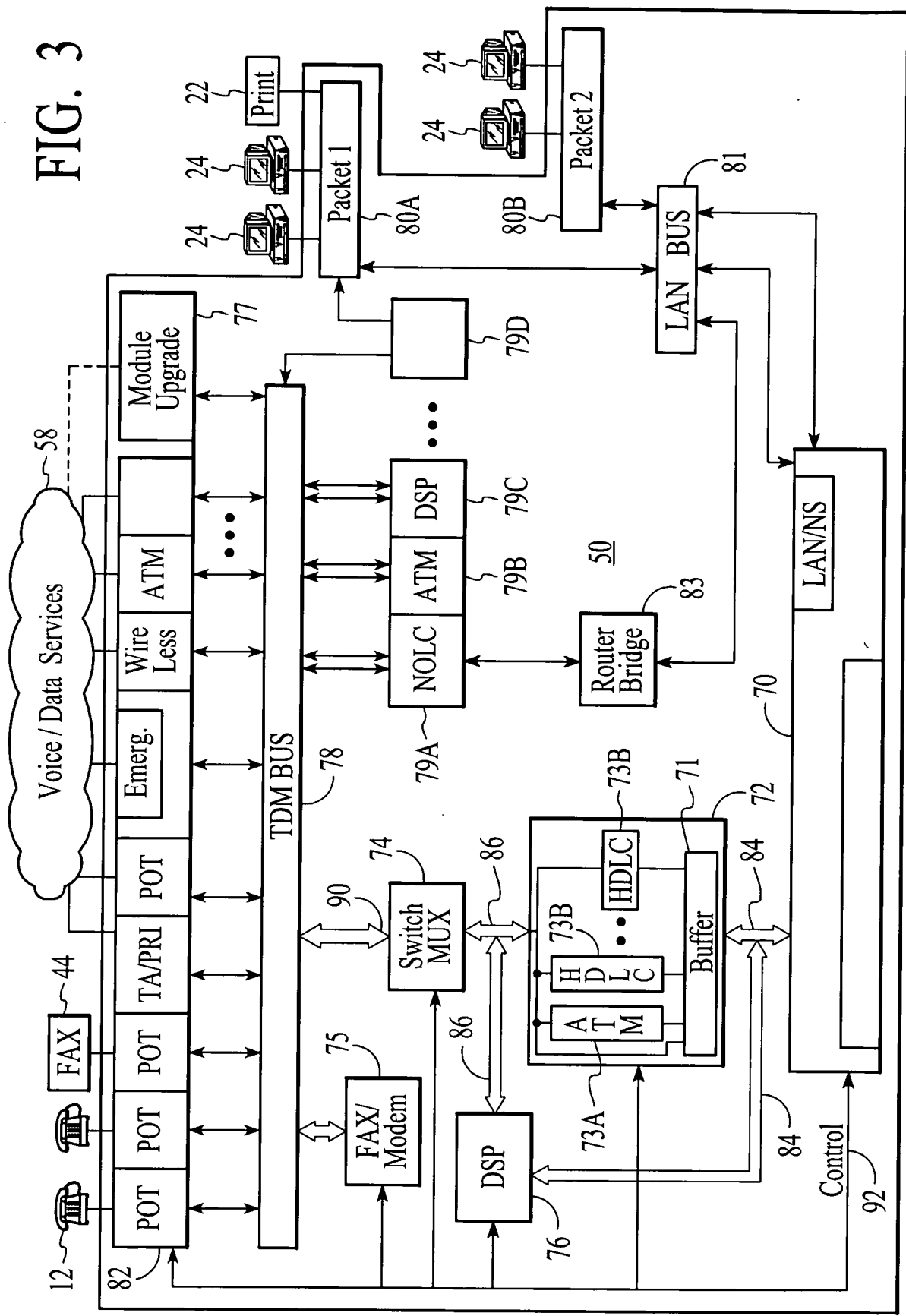


FIG. 2

FIG. 3



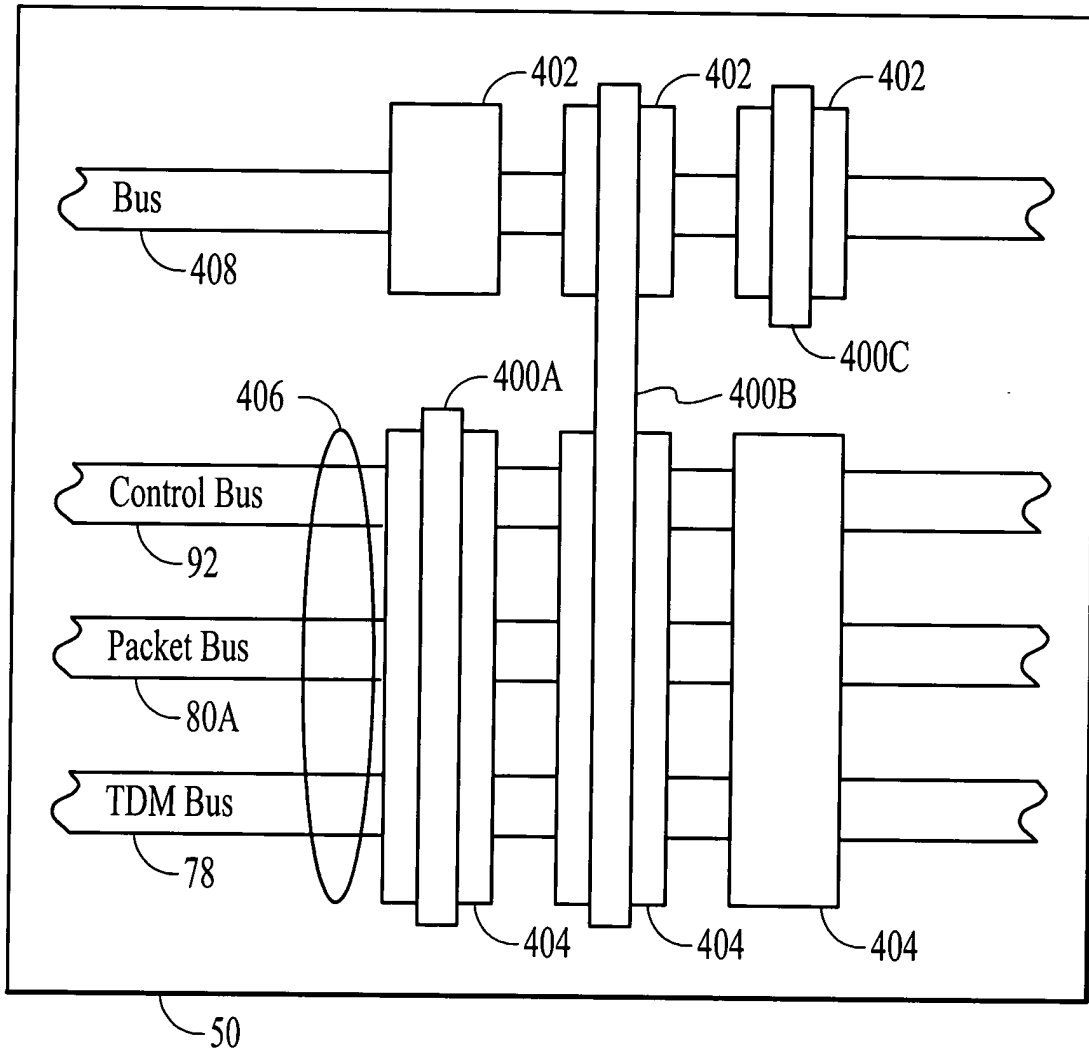


FIG. 3A

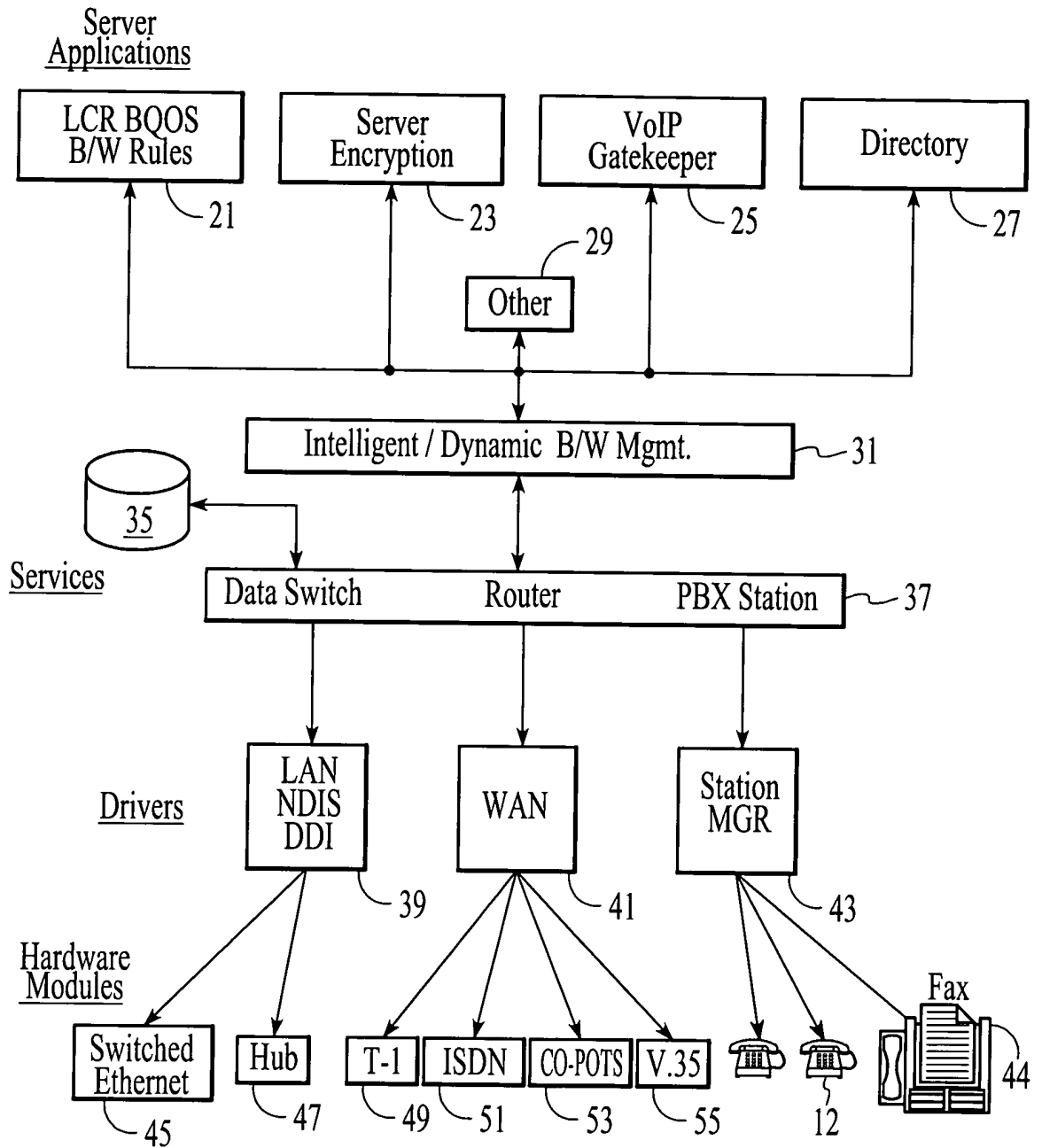


FIG. 4

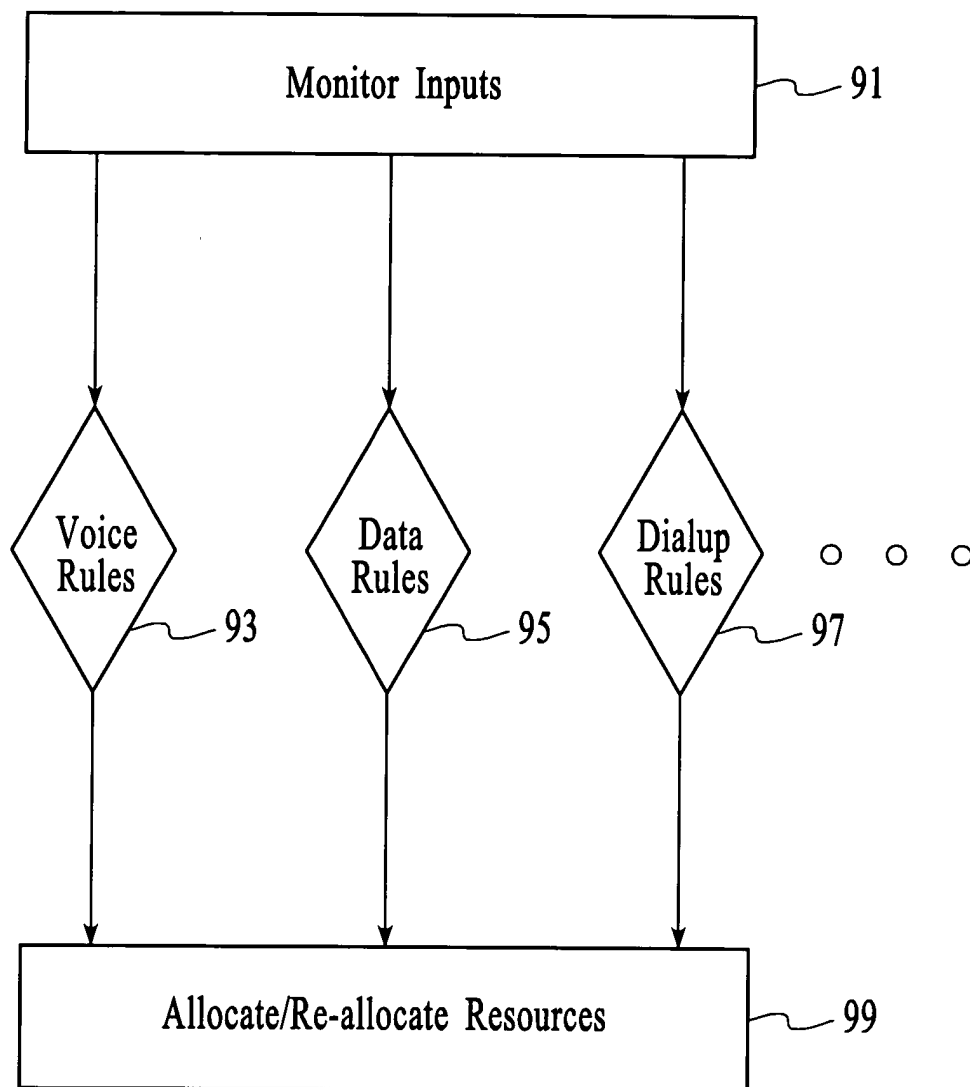


FIG. 5

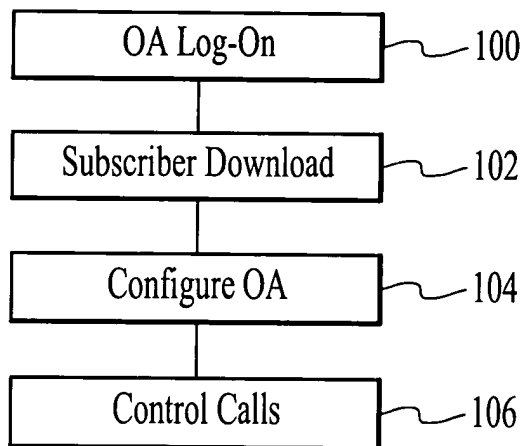


FIG. 6

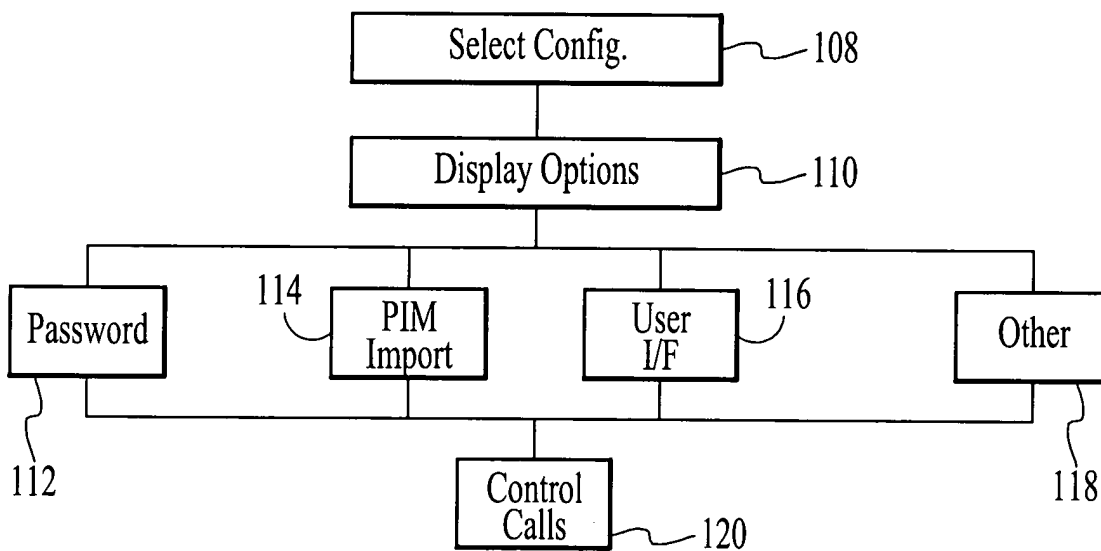


FIG. 7

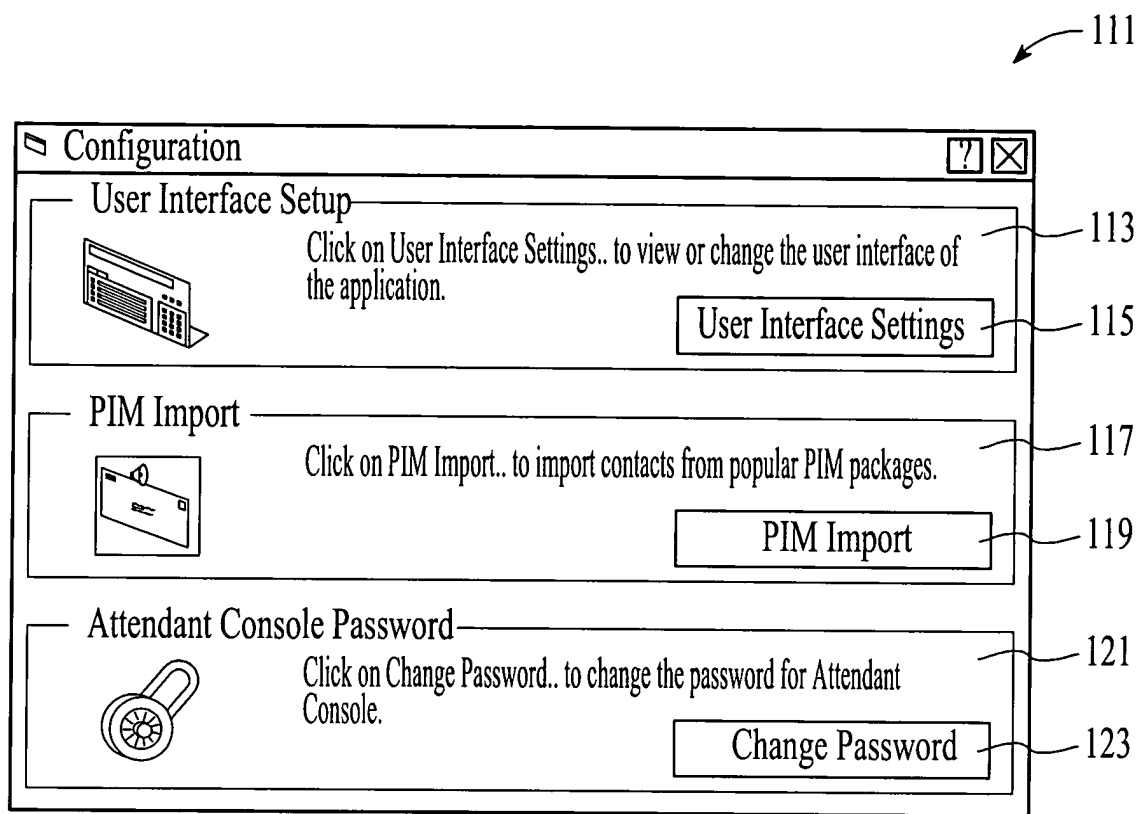


FIG. 7A

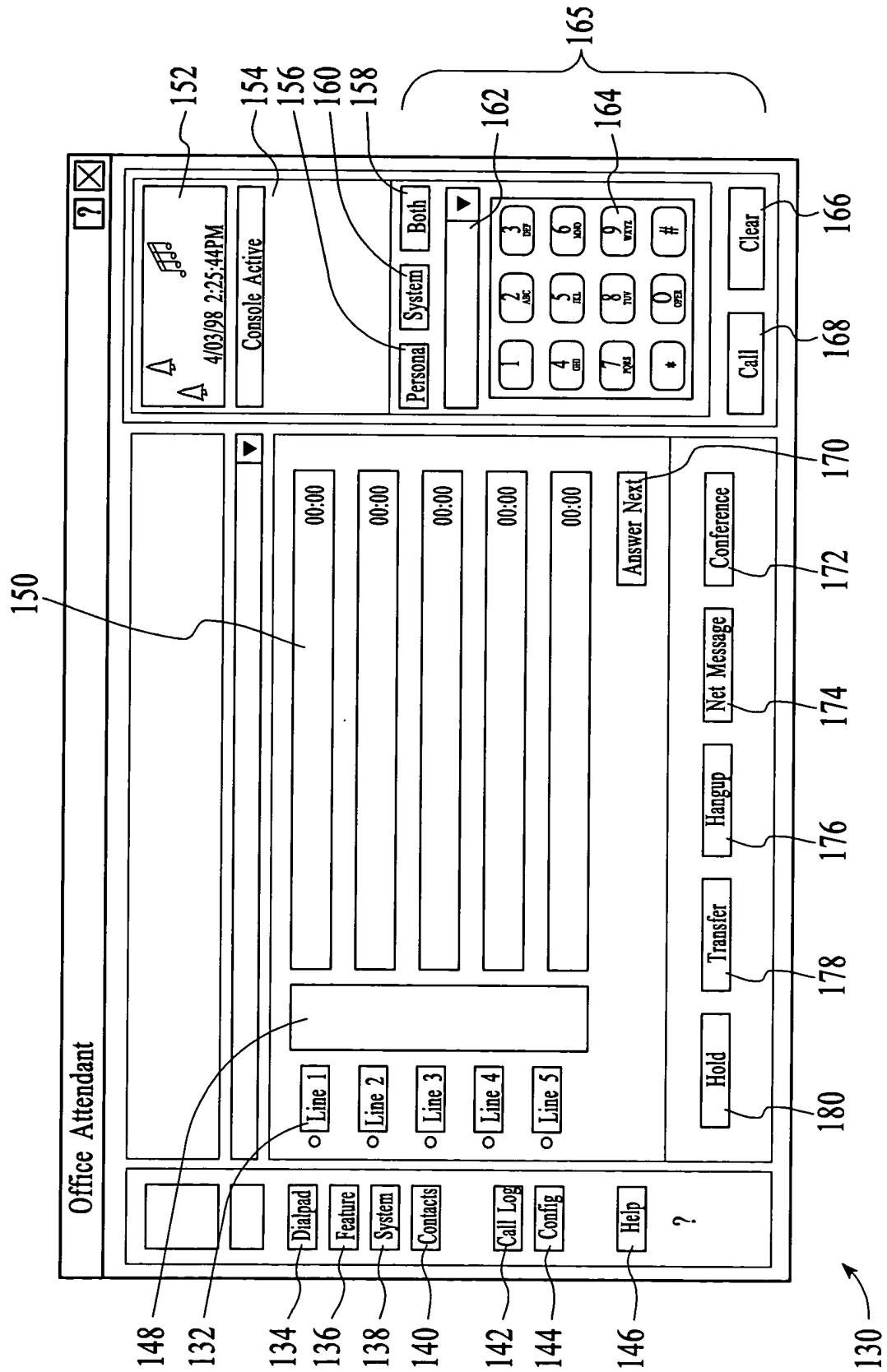


FIG. 8A

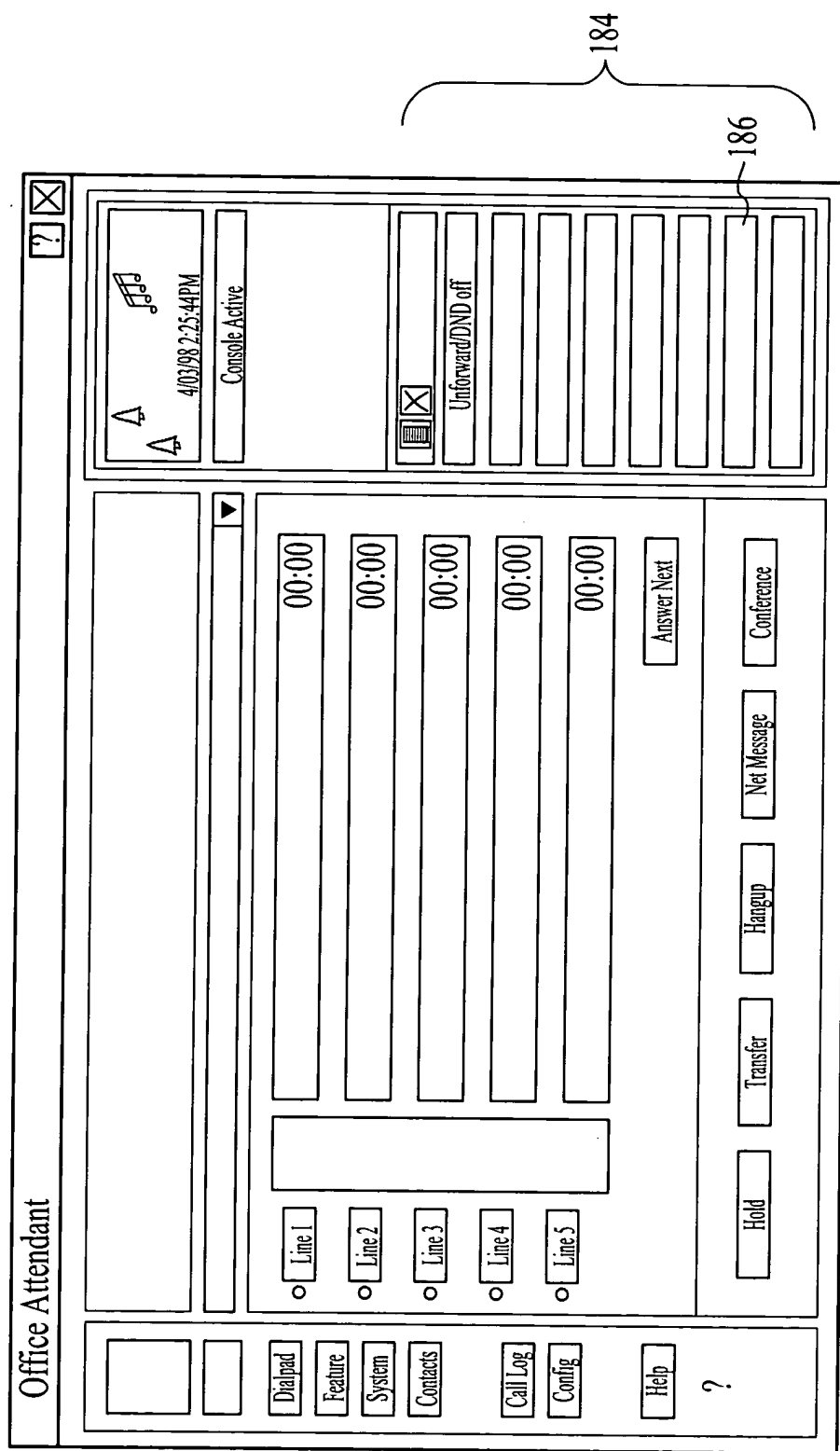


FIG. 8B

182

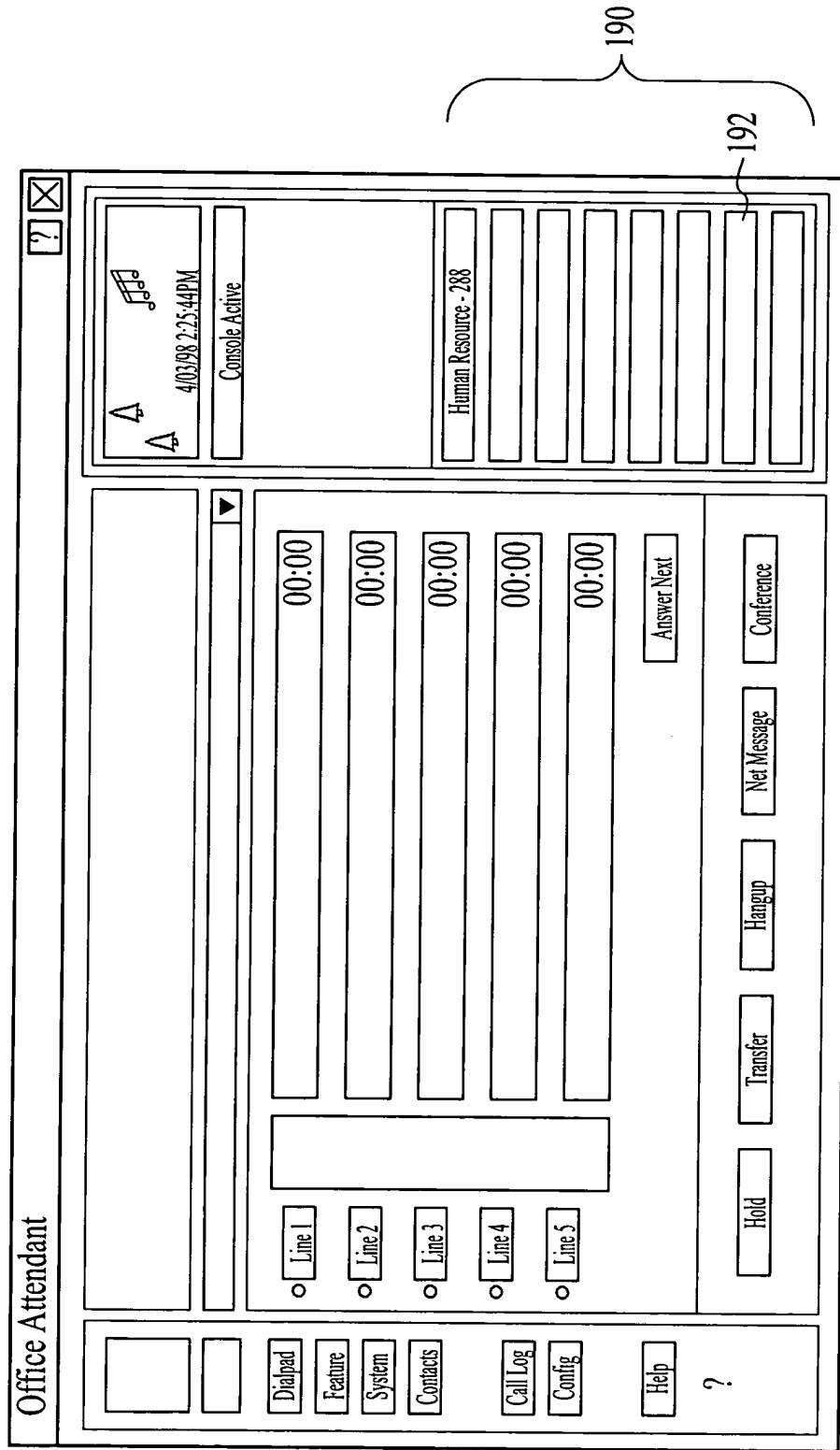


FIG. 8C

188

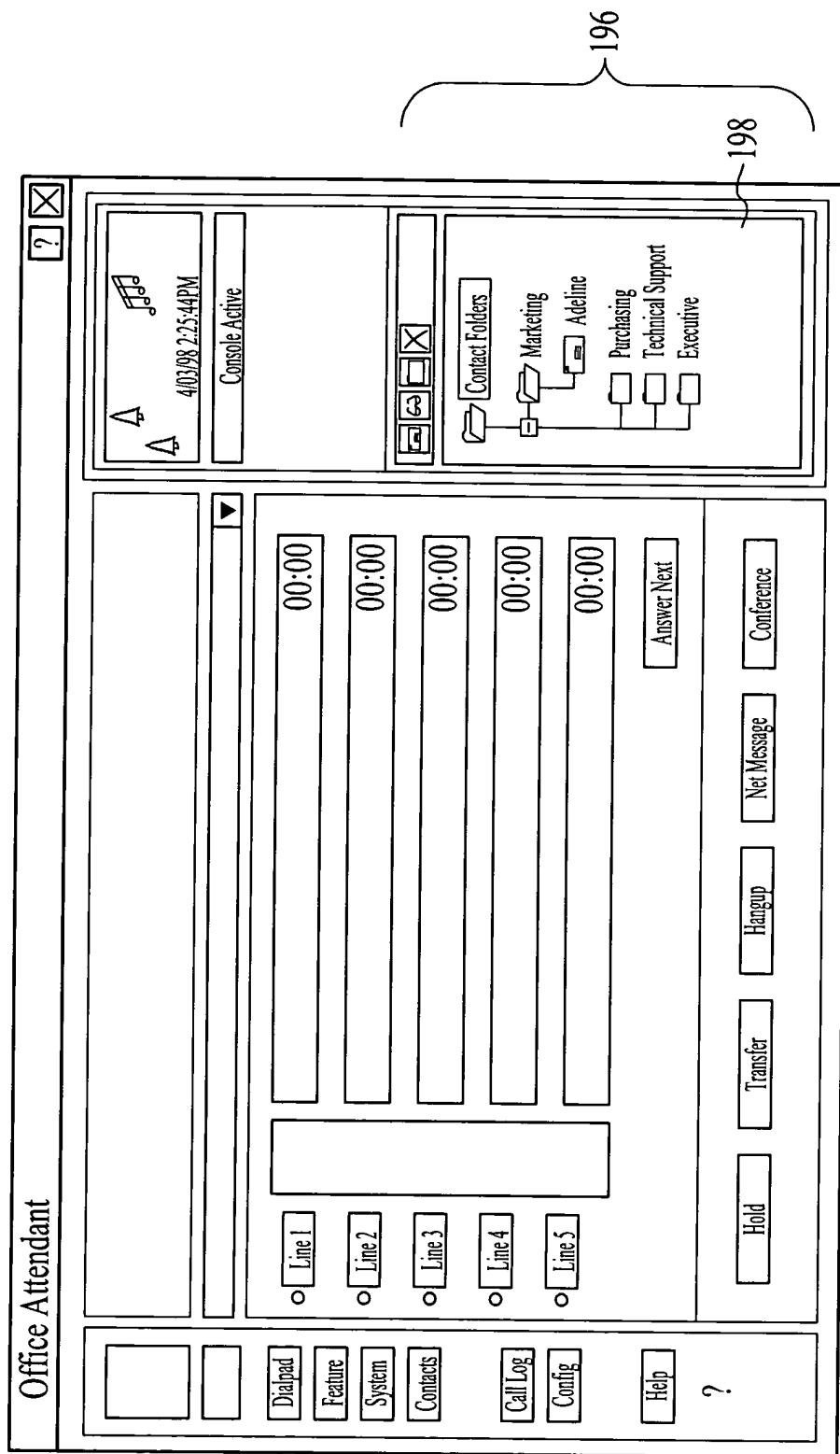


FIG. 8D

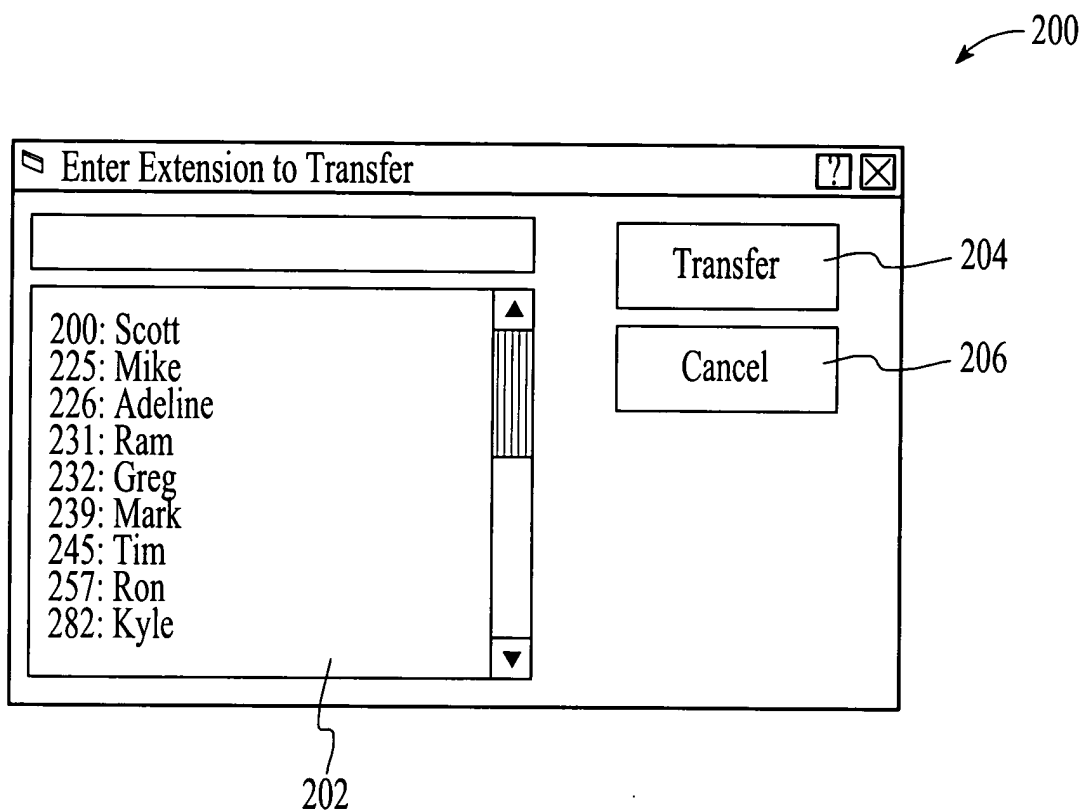


FIG. 9A

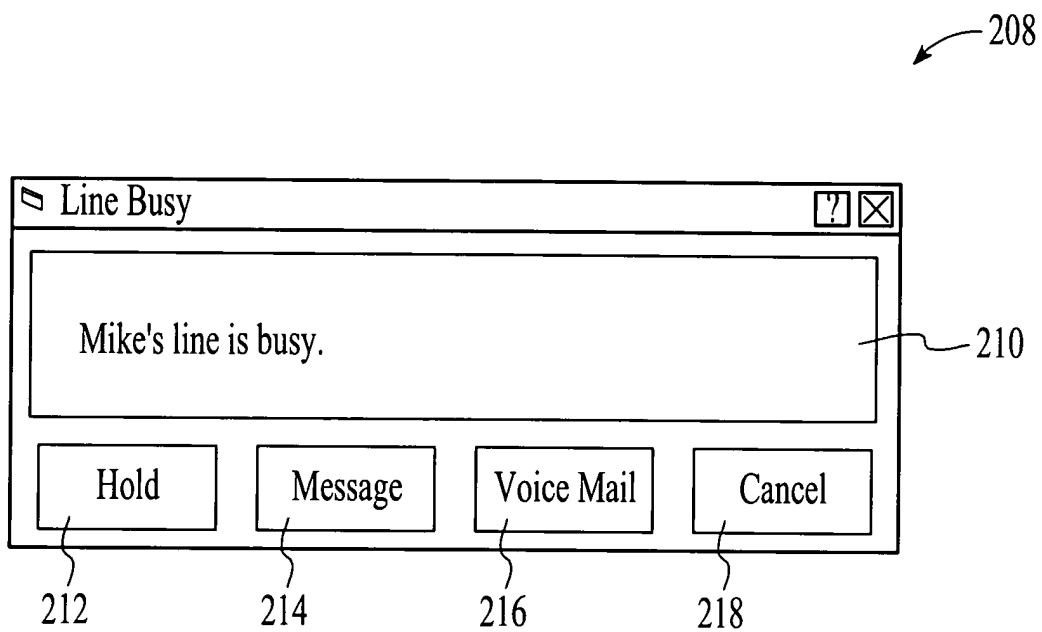


FIG. 9B

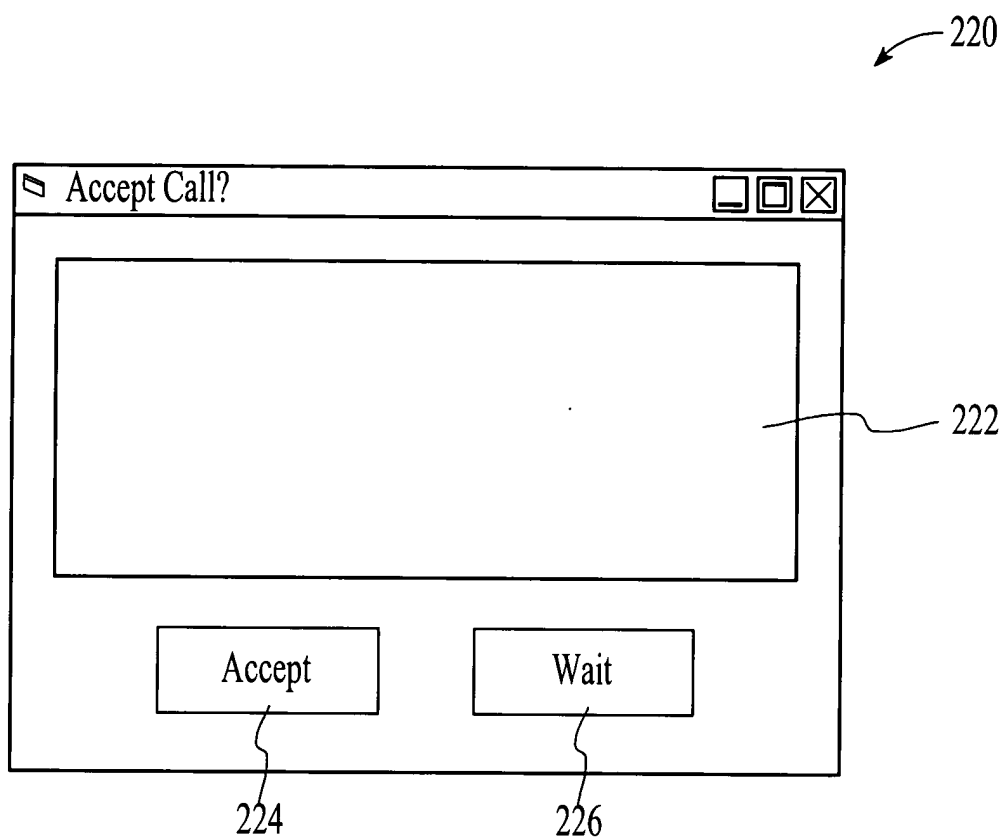


FIG. 9C



230 →

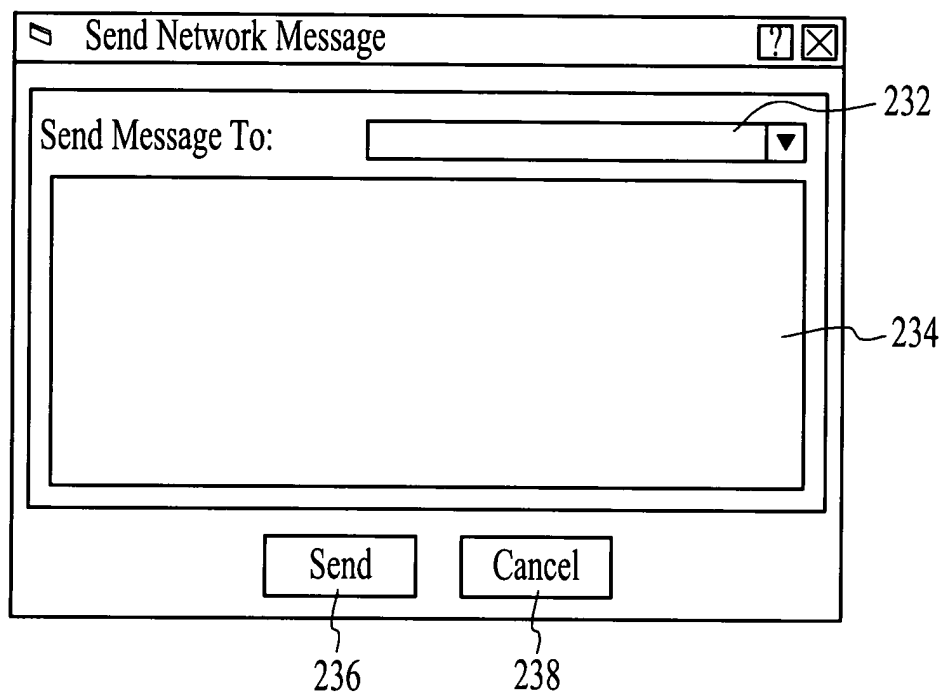


FIG. 10A



240

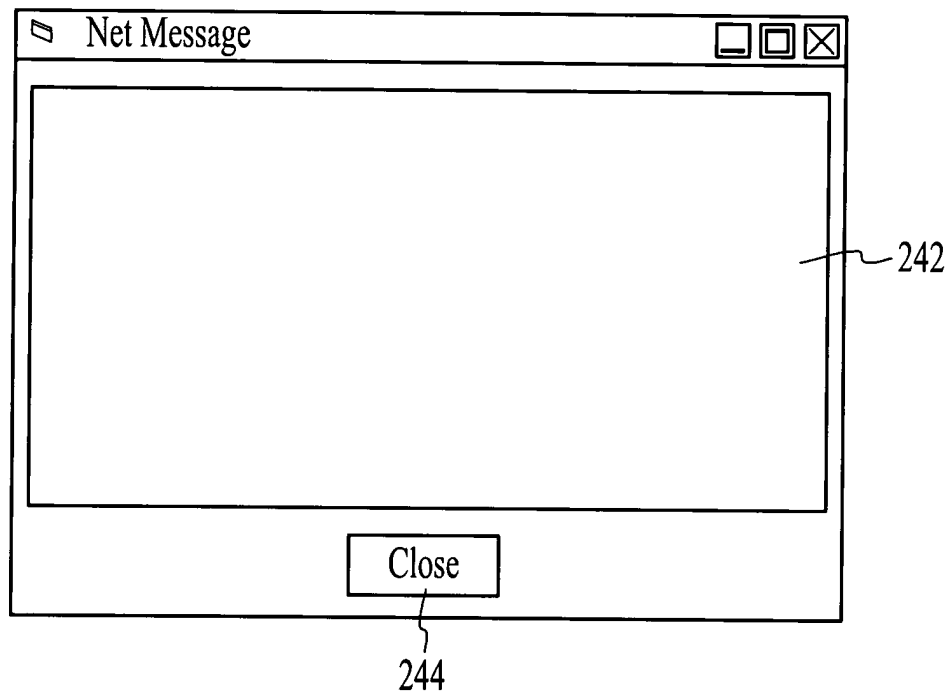


FIG. 10B

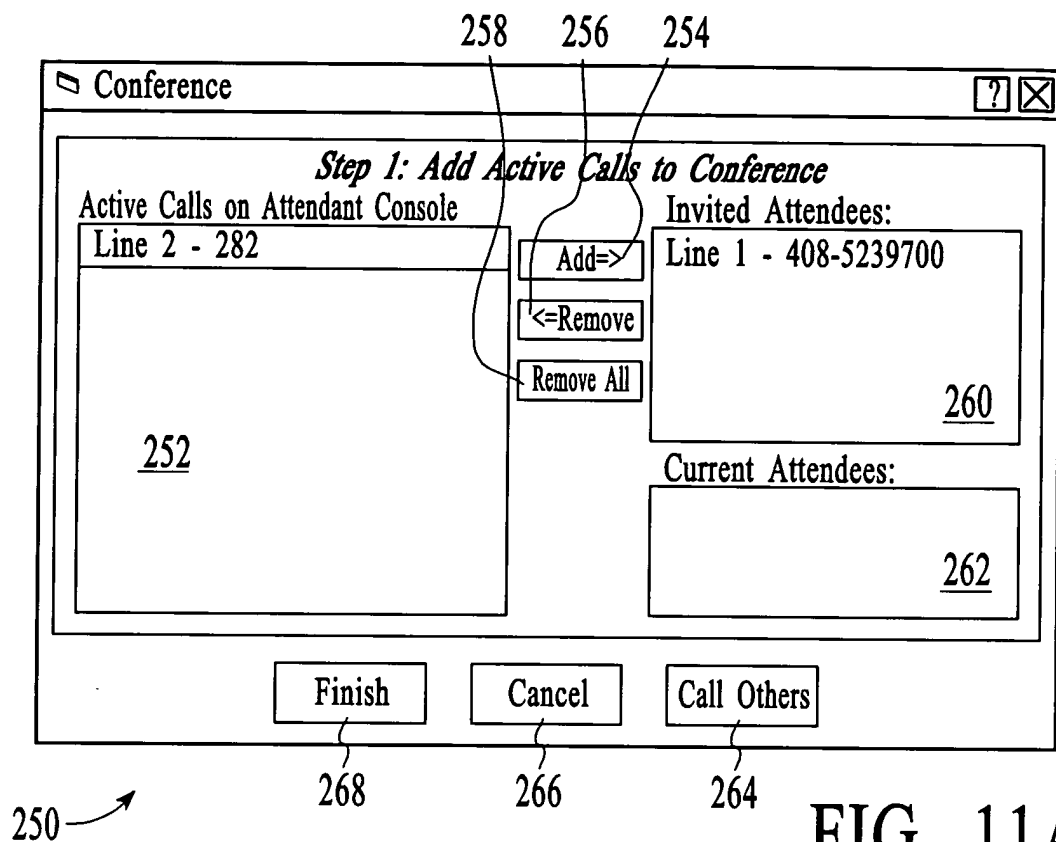


FIG. 11A

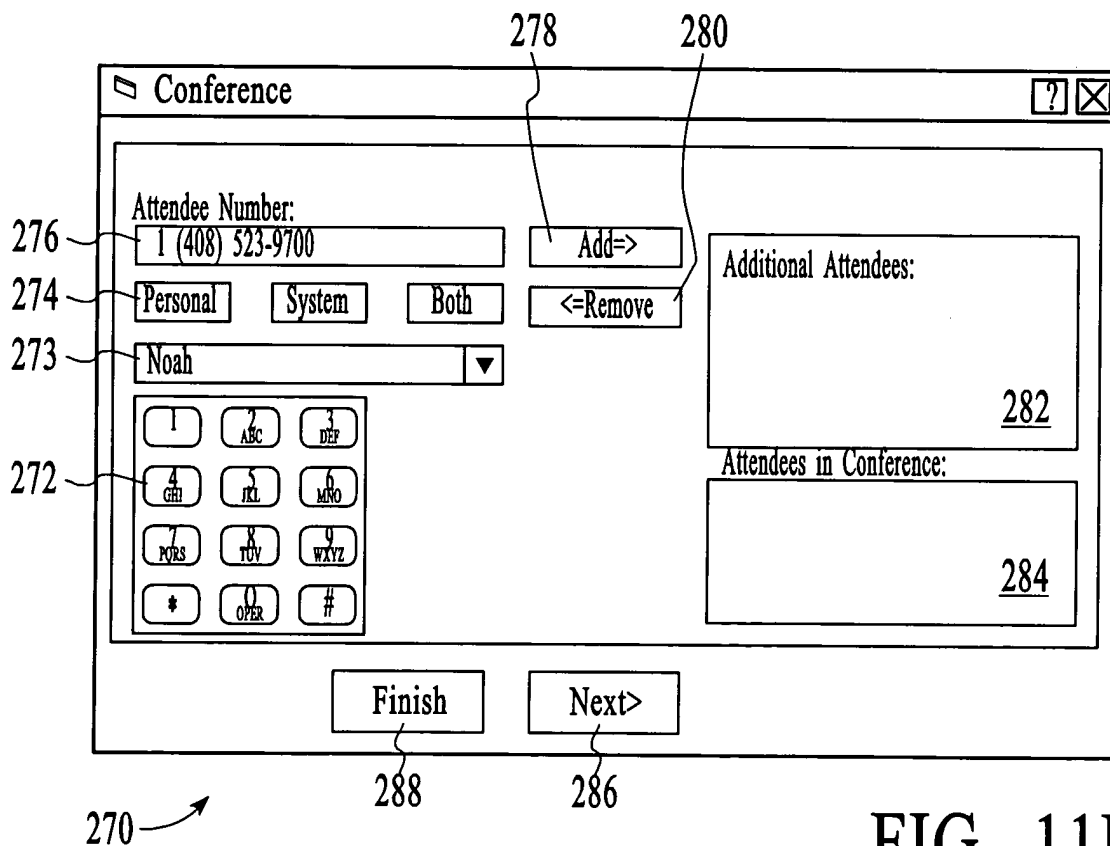


FIG. 11B

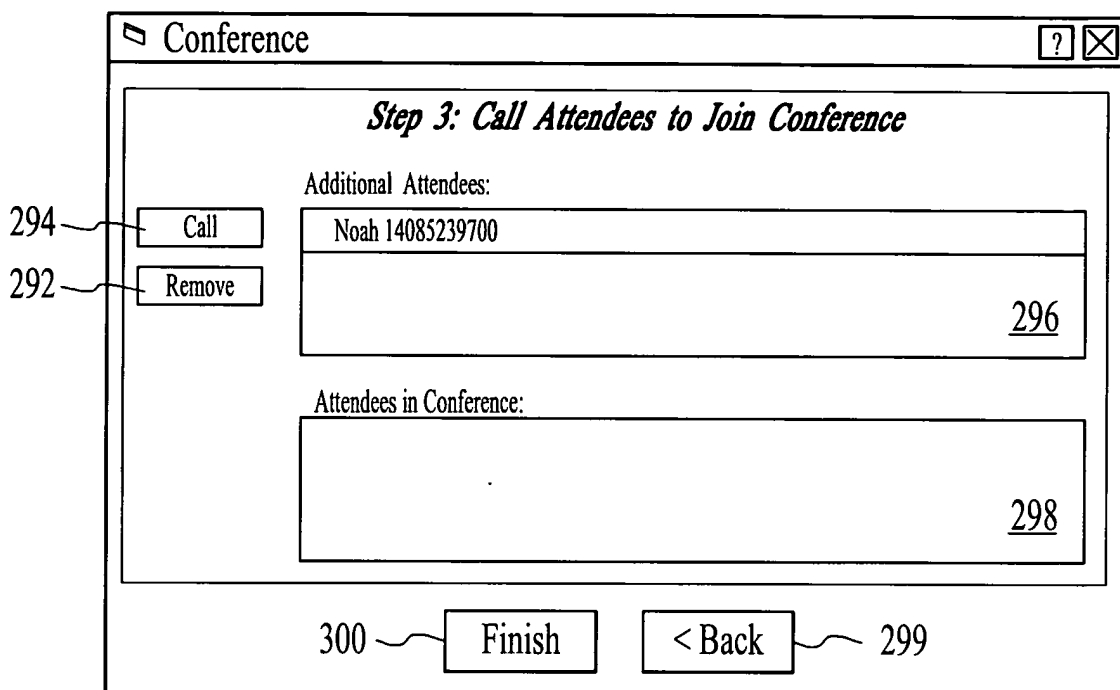
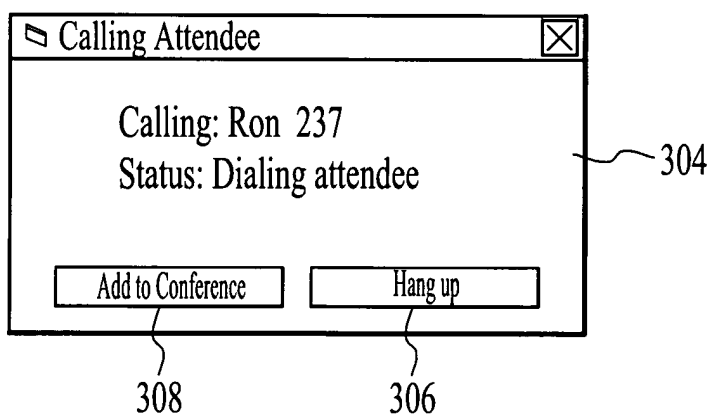


FIG. 11C

290

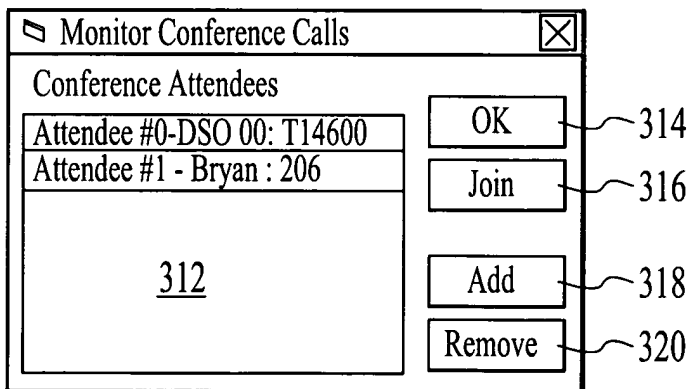
FIG. 11D

302



310

FIG. 11E



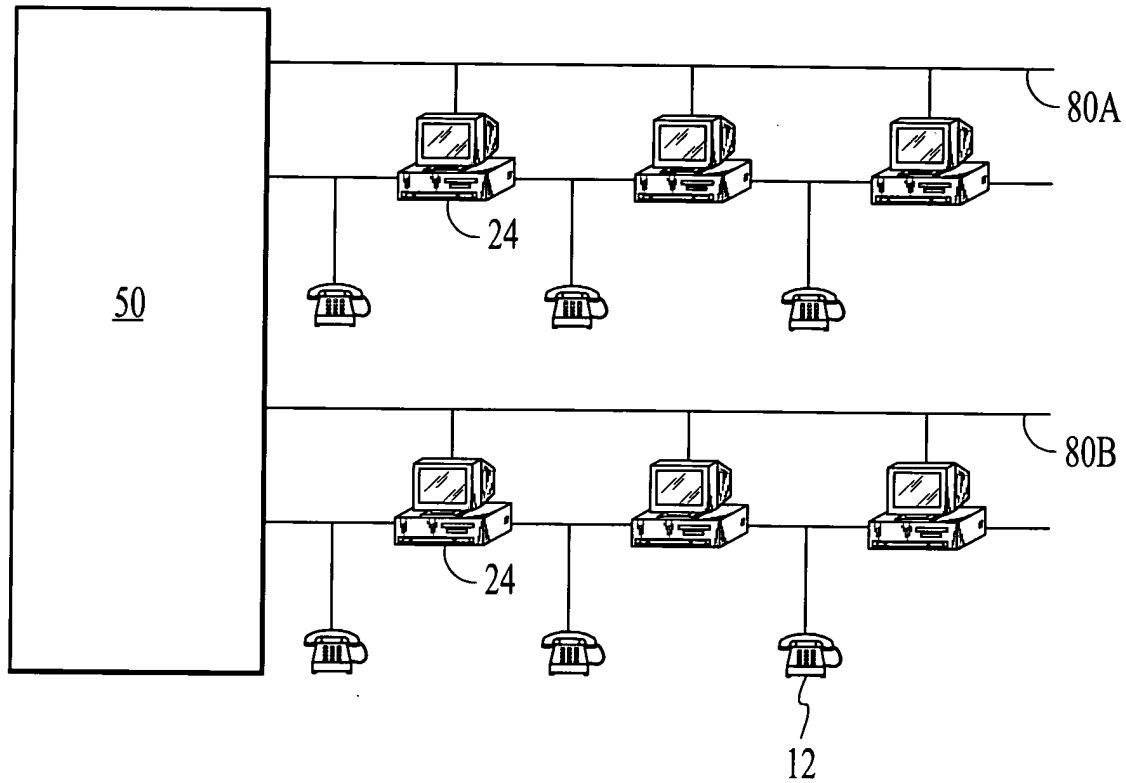


FIG. 12

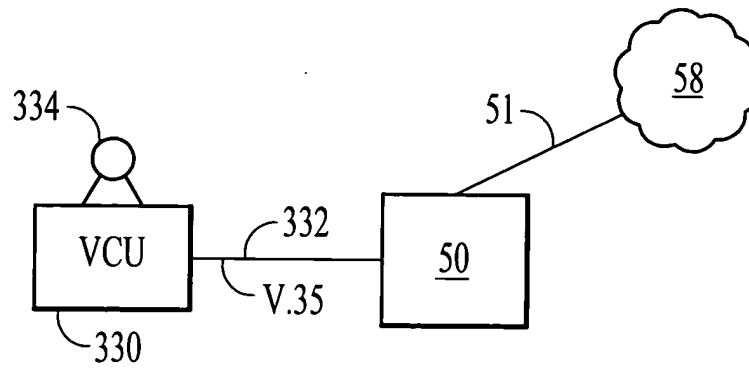


FIG. 13A

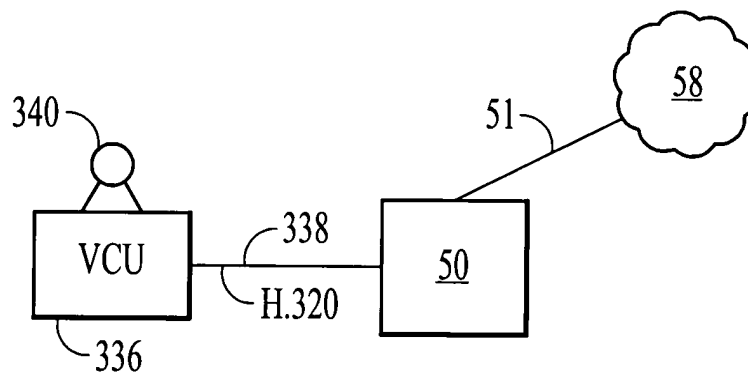


FIG. 13B

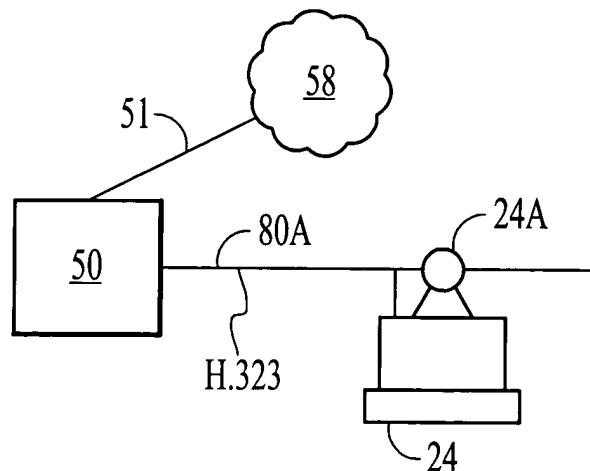


FIG. 13C

Call Log

353 ☐ Total Number Calls: 0

352

Number	Begin Time	End Time	Duration	Type	Acco
227	3/23/98 7:26:11 PM	3/23/98 7:26:15 PM	00:00:04	Inbound	

354

Record Details

356

Number	227
Begin Time	3/23/98 7:26:11 PM
End Time	3/23/98 7:26:15 PM
Duration	00:00:04
Type	Inbound
Account	

358

Note

360

350

FIG. 14

































InstantOffice Remote Management Console		
 Log Off	 Diagnostics	 Help
General Administration		
 Chassis View	 Password Administration	 Access Permissions
 General Settings	 SNMP Configuration	 SNMP Alarms
 Software Versions	 System Backup/Restore	 Software Upgrade
 Call Detail Report	 RAID-1 Configuration	 Date and Time
 Restart InstantOffice		
PBX, Voice Mail, and CTI Administration		
 Extension Configuration	 Hunt Groups	 Local TAPI Configuration
 AutoAttendant & Voice Mail	 Station Ports	 CTI Speed Dial No.
 First Digit Table		
Data Administration		
 IP Network Settings	 Microsoft RRAS	
 IPX Configuration	 Network Services & Adapters	
Trunk Administration		
 Trunk Groups	 Trunk Access Profiles	 Frame Relay
 T-1 Trunks	 Analog Trunks	

FIG. 15

01F
NOV 05 2002
PATENT & TRADEMARK

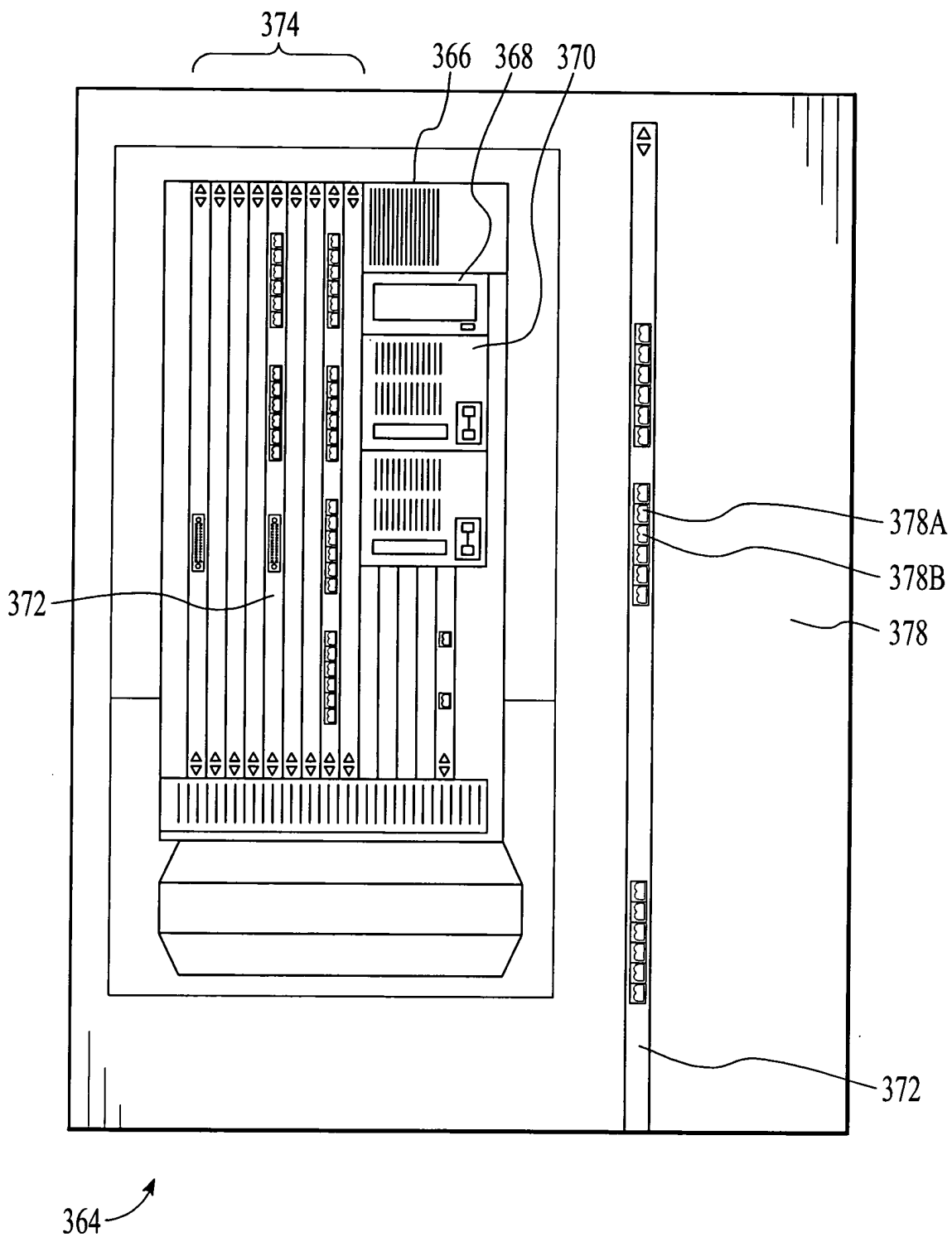


FIG. 16A

NOV 05 2002
PATENT & TRADE

T-1 Trunks

Card/Module: (Slot 14) T-1 Module, 2-Port

Port 1

Port 2

Trunk Settings

☐ Trunk in Service

Trunk Type

T-1

ISDN Switch Variant

AT&T

System Clock Reference

Not Used

Framing

ESF

Line Coding

B8ZS

Line Build Out

7.5db

☒ Courtesy Reset
 ☐ Force Reset

Channel Settings

ISDN

None

	Enabled	Signaling	Trunk Groups
-1-	Yes	Wink Start	DID Digital
-2-	Yes	Wink Start	Modems
-3-	Yes	Ground Start	Voice Analog
-4-	Yes	Wink Start	Voice Digital
-5-	Yes	Wink Start	DID Analog
-6-	No	Wink Start	WAN Data
-7-	No	Wink Start	None
-8-	No	Wink Start	None
-9-	No	Wink Start	None
-10-	No	Wink Start	None
-11-	No	Wink Start	None
-12-	No	Wink Start	None
-13-	No	Wink Start	None
-14-	No	Wink Start	None
-15-	No	Wink Start	None
-16-	No	Wink Start	None
-17-	No	Wink Start	None
-18-	No	Wink Start	None
-19-	No	Wink Start	None
-20-	No	Wink Start	None
-21-	No	Wink Start	None
-22-	No	Wink Start	None
-23-	No	Wink Start	None
-24-	No	Wink Start	None

FIG. 16B

Station Ports

Card/Module:

State

Disabled

Phone Type

Caller ID

MWI Type

Lamp

Operation Mode

Vmail

☒ Courtesy Reset

☐ Force Reset

☐ Card in Service

	State	Phone Type	MWI Type	Operation Mode
-1-	Enabled	Caller ID	Stutter	Station
-2-	Enabled	Basic	Stutter	Station
-3-	Enabled	Basic	Lamp	Station
-4-	Enabled	Caller ID	Stutter	Station
-5-	Enabled	Basic	Stutter	Vmail
-6-	Enabled	Basic	Stutter	Station
-7-	Enabled	Basic	Lamp	Station
-8-	Enabled	Basic	Stutter	Station
-9-	Enabled	Basic	Stutter	Station
-10-	Enabled	Basic	Stutter	Station
-11-	Enabled	Basic	Stutter	Station
-12-	Enabled	Basic	Stutter	Station
-13-	Enabled	Basic	Stutter	Station
-14-	Enabled	Basic	Stutter	No Config
-15-	Enabled	Basic	Stutter	Station
-16-	Enabled	Basic	Stutter	Vmail
-17-	Enabled	Basic	Stutter	Station
-18-	Enabled	Basic	Stutter	Station
-19-	Enabled	Basic	Stutter	Station
-20-	Enabled	Basic	Stutter	Station
-21-	Enabled	Basic	Stutter	Station
-22-	Enabled	Basic	Stutter	Station
-23-	Enabled	Basic	Stutter	Station
-24-	Enabled	Basic	Stutter	Station

Restore

Apply

Done

Help

FIG. 16C

Analog Trunk Configuration

Card/Module: ▼

Port Parameters

Signaling

▼

Trunk Group

▼

Port Settings

Enabled

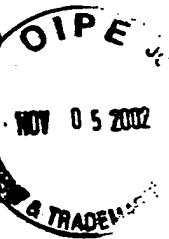
Signaling

Trunk Group

☐ Courtesy Reset

384 ↗

FIG. 16D



Frame Relay Configuration

Virtual Port: ▼ ☐ Removed

Port Settings

Name:

DLCI (16-991) ▲▼

LMI Mode: ▼

LMI Type: ▼

Encapsulation: ▼

386 ↗

FIG. 16E



Network Settings

Host Name	Domain Name
pbxlab04	vertical.com

Network Interface: [1] Resource Switch Card: 10BT Ethernet ▼

IP Address	DNS	WINS
------------	-----	------

Windows Internet Name Services (WINS)

Primary WINS Server:	Secondary WINS Server:
192.168.1.2	

☐ Enable DNS for Windows Resolution

Scope ID:

Restore

Apply

Done

Help

388

FIG. 16F

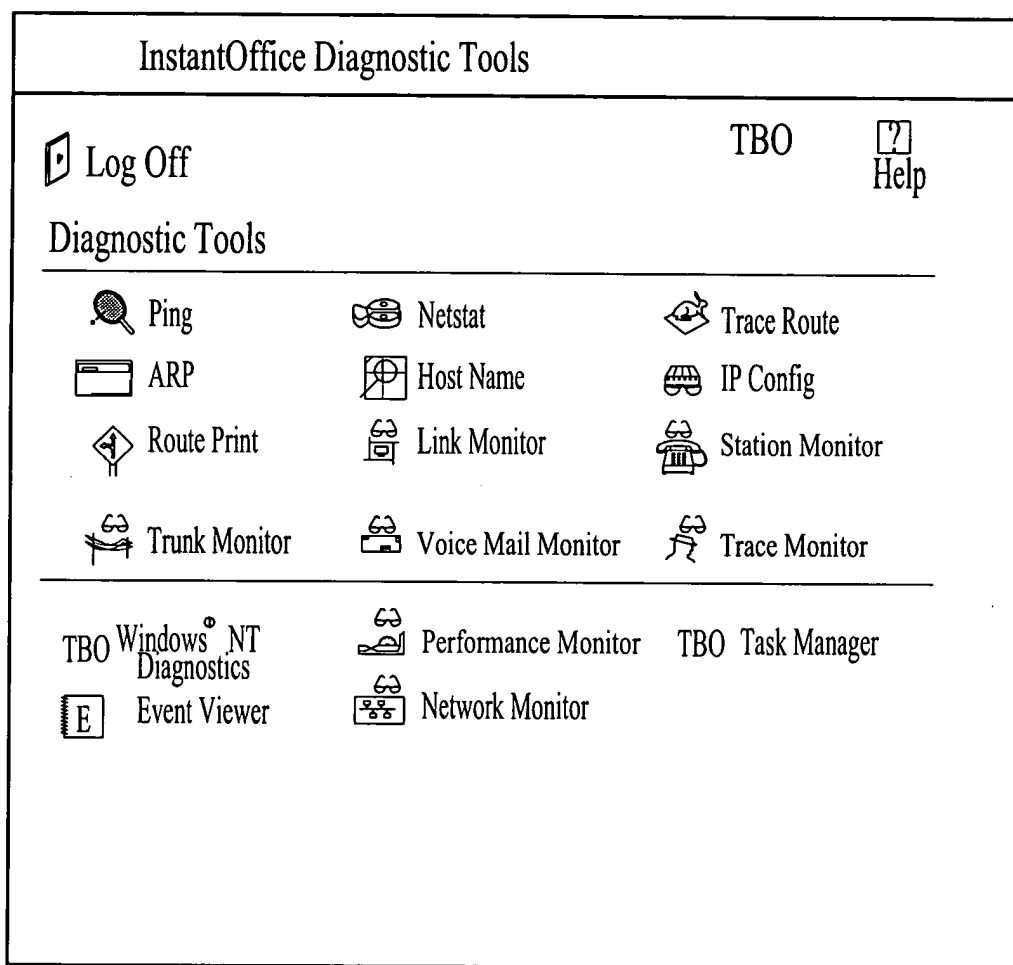


FIG. 17A

[illegible]

FIG. 17B



Link Monitor

☐ Use Periodic Polling Polling Intervals (in secs): 1

☒ Refresh on Demand Refresh

Slot	Board	Port	Admin	Auto Partition	Link
7	Ethernet Hub Card	15	Enabled	No	No Link
7	Ethernet Hub Card	16	Enabled	No	No Link
7	Ethernet Hub Card	17	Enabled	No	No Link
7	Ethernet Hub Card	18	Enabled	No	No Link
7	Ethernet Hub Card	19	Enabled	No	No Link
7	Ethernet Hub Card	20	Enabled	No	No Link
7	Ethernet Hub Card	21	Enabled	No	No Link
7	Ethernet Hub Card	22	Enabled	No	No Link
7	Ethernet Hub Card	23	Enabled	No	No Link
7	Ethernet Hub Card	24	Enabled	No	No Link
5	Resource Switch C...	1	Enabled	No	No Link
5	Resource Switch C...	2	Enabled	No	No Link
5	Resource Switch C...	3	Enabled	No	No Link
5	Resource Switch C...	4	Enabled	No	Link
5	Resource Switch C...	5	Enabled	No	No Link
5	Resource Switch C...	6	Enabled	No	No Link
5	Resource Switch C...	7	Enabled	No	No Link
5	Resource Switch C...	8	Enabled	No	No Link
5	Resource Switch C...	9	Enabled	No	No Link
5	Resource Switch C...	10	Enabled	No	No Link
5	Resource Switch C...	11	Enabled	No	No Link
5	Resource Switch C...	12	Enabled	No	No Link

Done Help

FIG. 17C



Link Monitor

☐ Use Periodic Polling Polling Intervals (in secs):

☒ Refresh on Demand

Extension	State	Other Party	Display Name	Card	Port
	Offhook Active		Default	0	0
	Offhook Active		Default	0	0
	Offhook Active		Default	0	0
	Offhook Active		Default	0	0
	Offhook Active		Default	0	0
	Offhook Active		Default	0	0
	Offhook Active		Default	0	0
	Offhook Active		Default	0	0
	Offhook Active		Default	0	0
	Offhook Active		Default	0	0
	Offhook Active		Default	0	0
	Offhook Active		Default	0	0
	Offhook Active		Default	0	0
	Offhook Active		Default	0	0
571	Phone is not op...		Default	0	0
572	Phone is not op...		Default	0	0
100	Idle		Default	0	0
101	Idle		Default	0	0
102	Idle		Default	0	0
103	Idle		Default	0	0
104	Idle		Default	0	0
105	Idle		Default	0	0
106	Idle		Default	0	0
107	Idle		Default	0	0
108	Idle		Default	0	0
109	Idle		Default	0	0

Warning: Applet Window

FIG. 17D

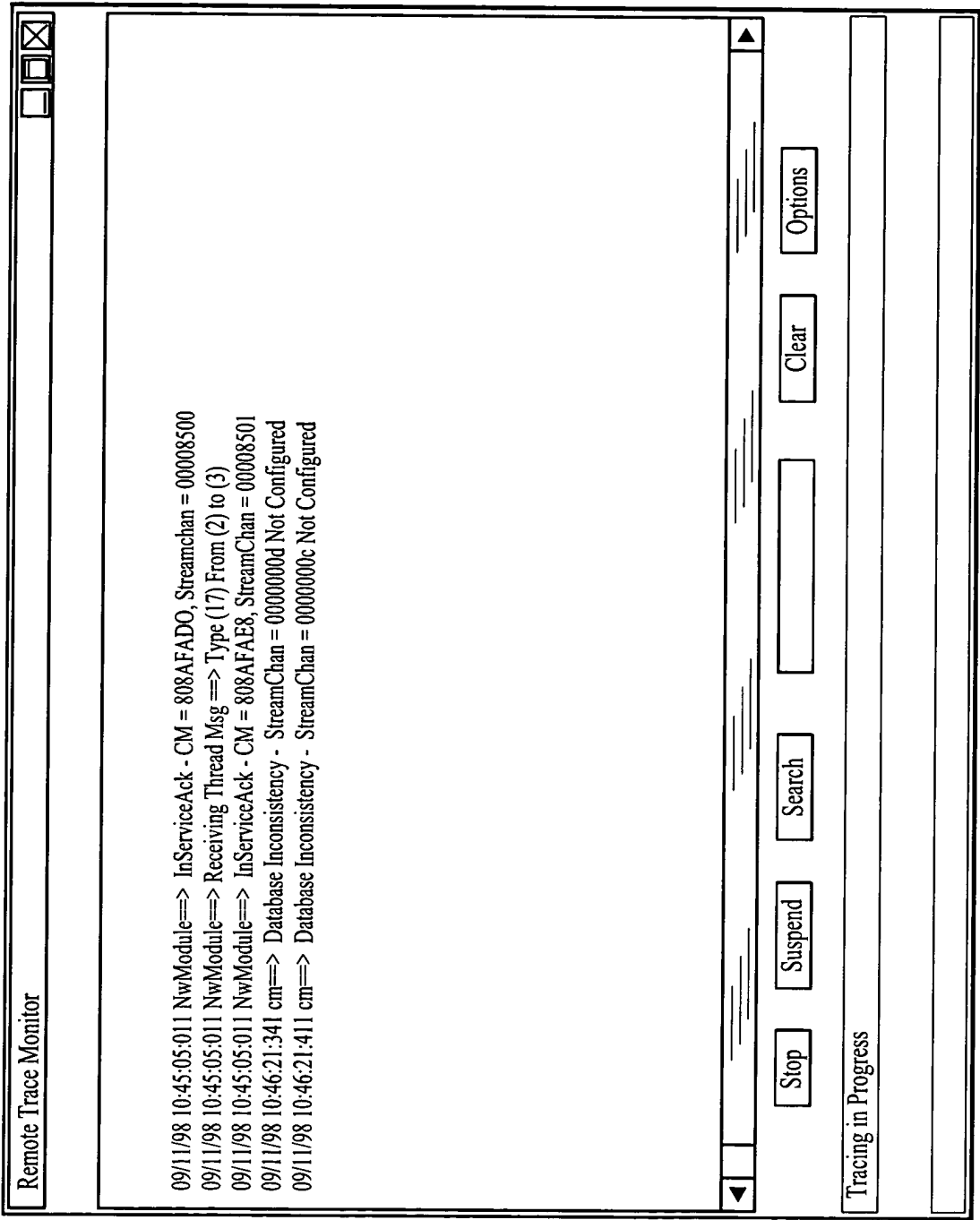


FIG. 17E



Tracing Configuration

Level

☒ Standard ☐ Advanced

Trace Categories

Available

Selected

CTI
Frame Relay
ISDN
PBX
PPP
Trunks
Voice Mail

Add>>
<<Remove
Clear

OK Cancel

397 →

FIG. 17F

Tracing Configuration

Level

☐ Standard ☒ Advanced

Available Categories and Filters

Component

- AAServer
- CDataRep
- CTICS
- Connection Manager
- DSP Manager

Trace Filters

- Server

Add Remove Clear

Selected Categories and Filters

OK Cancel

398

FIG. 17G



Tracing Configuration

Mode

☒ Real-Time

☐ File

Number of Entries Displayed

500 1000 1500 2000 2500

Poll Interval in Seconds

0 1 2 3 4 5

File Search Parameters

Start Time

YYYY MM DD HH MM SS

1998 01 01 12 00 00

End Time

YYYY MM DD HH MM SS

2001 12 31 23 59 59

OK Cancel

399 →

FIG. 17H

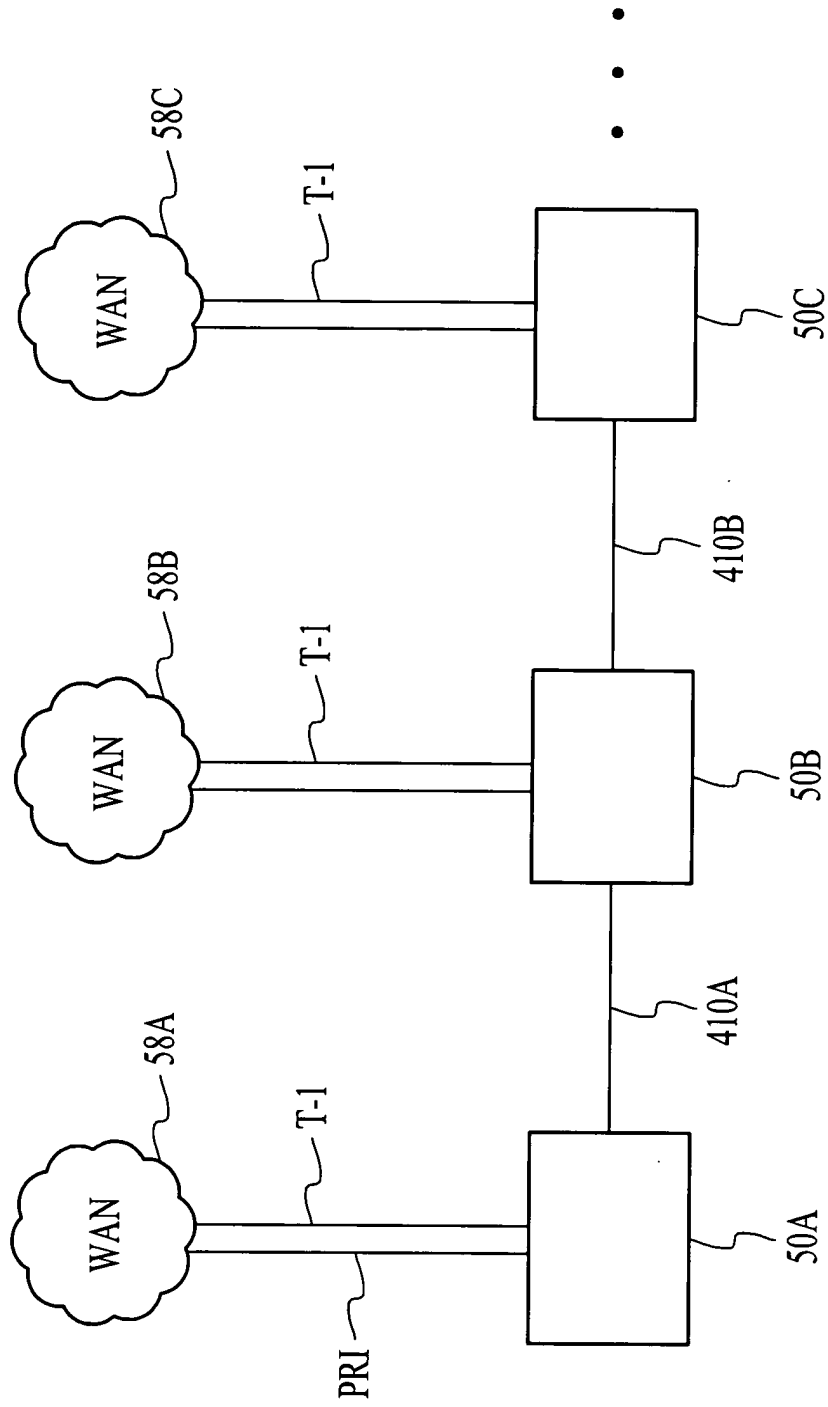


FIG. 18

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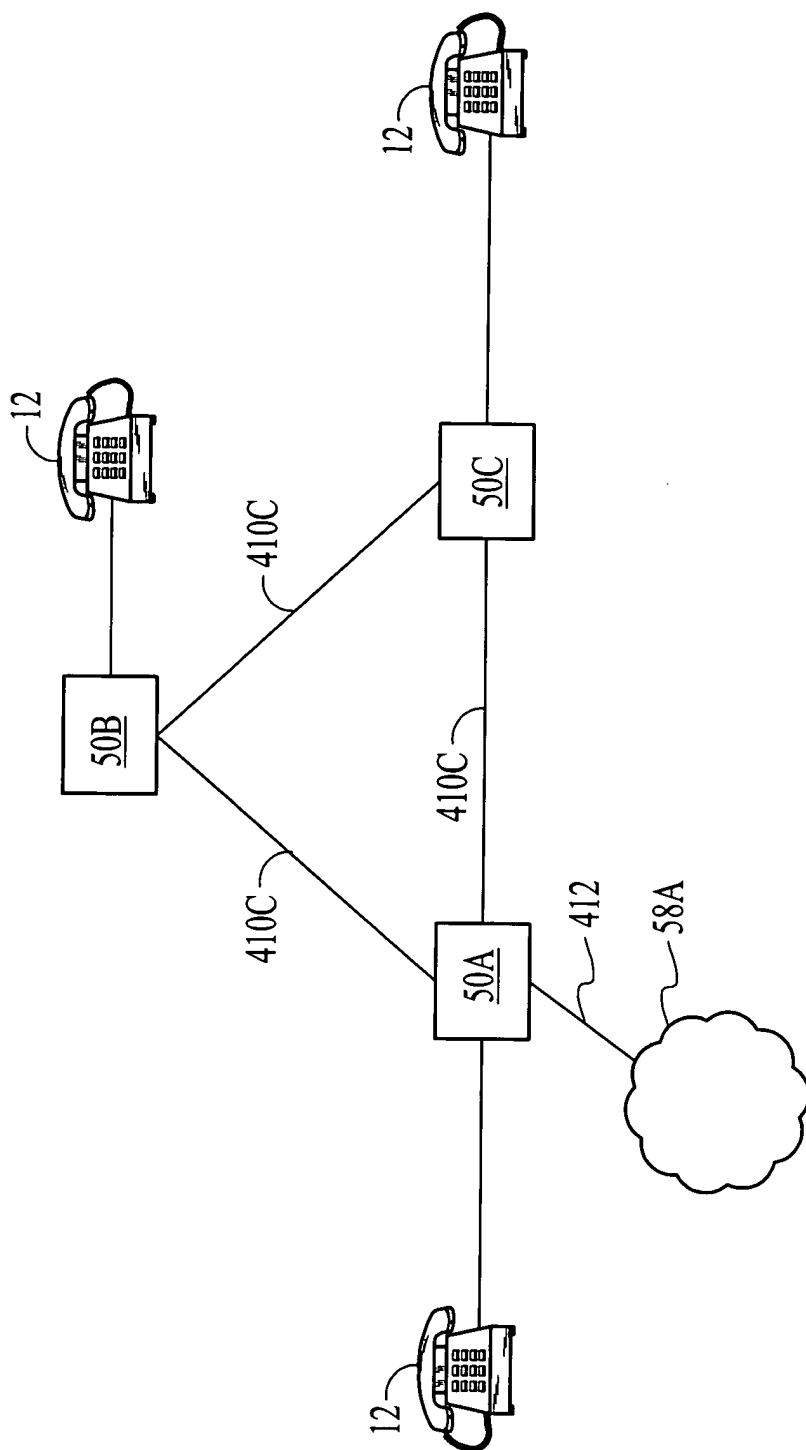


FIG. 19

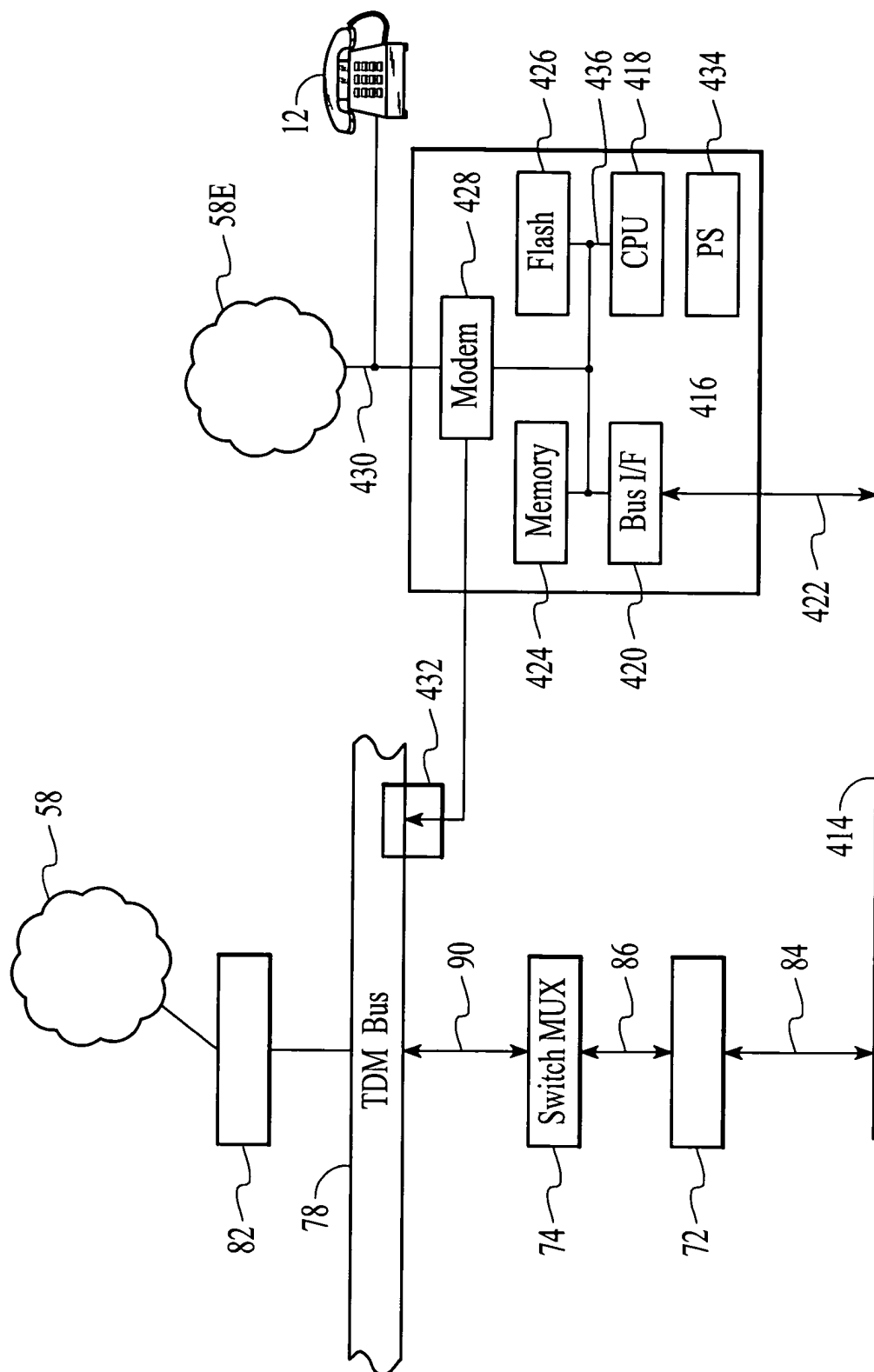


FIG. 20

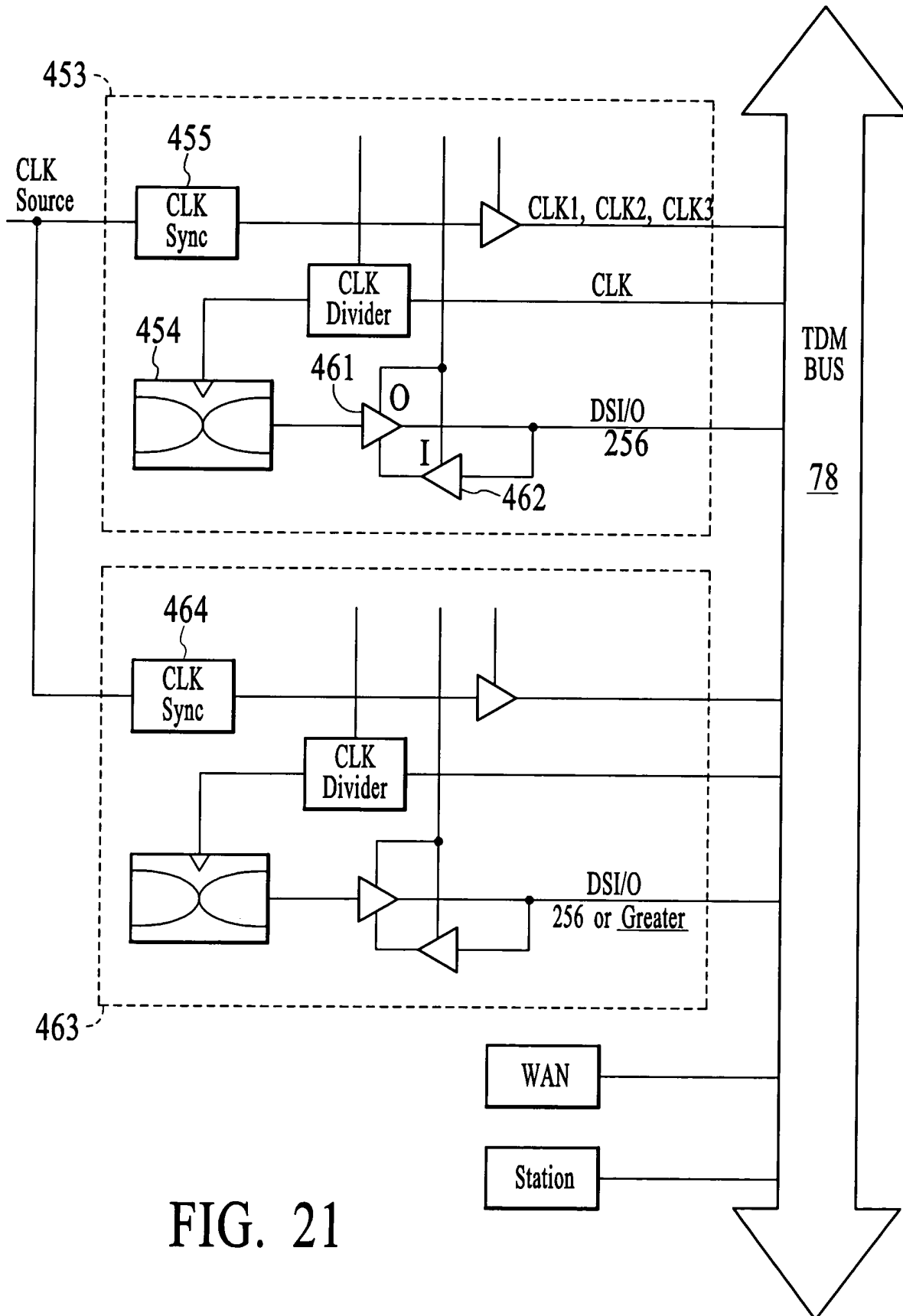


FIG. 21

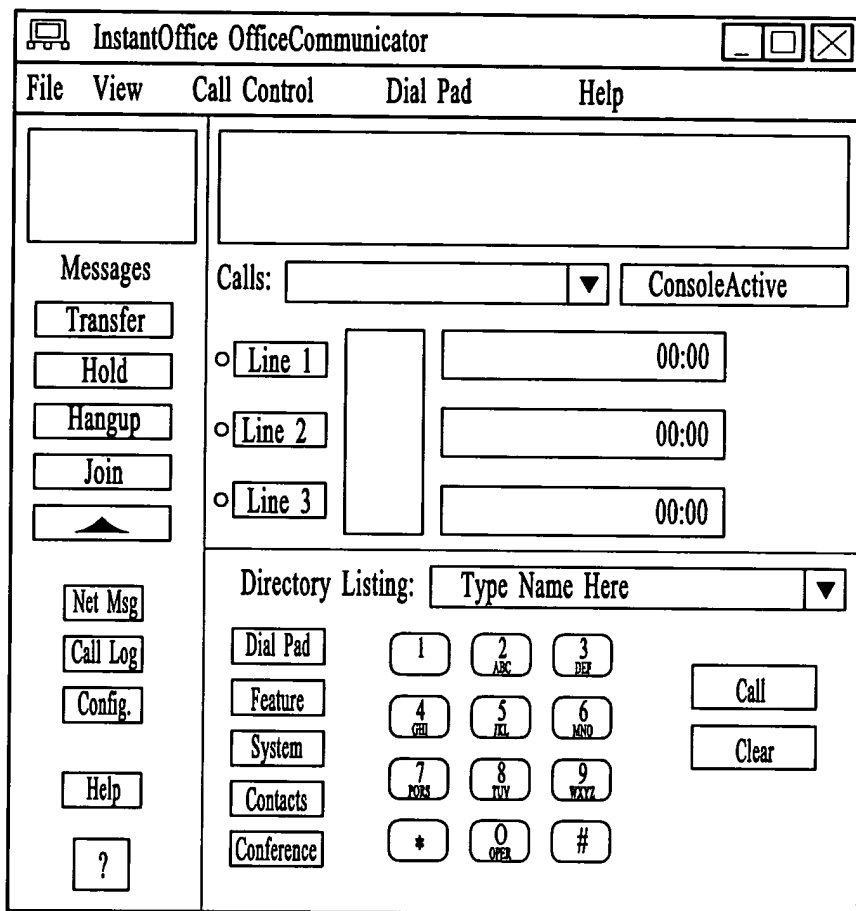


FIG. 22

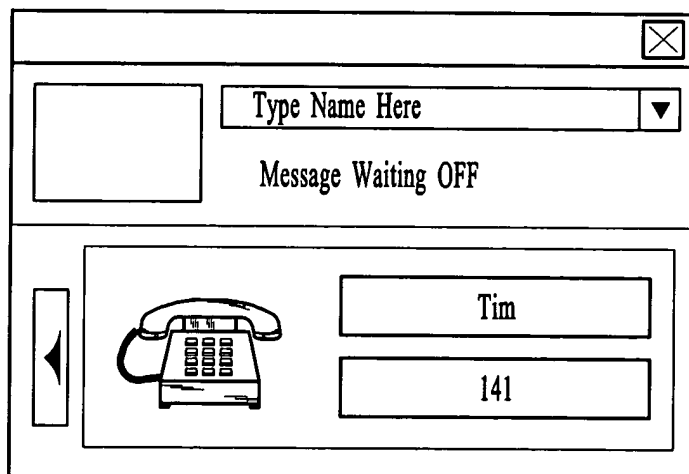


FIG. 23

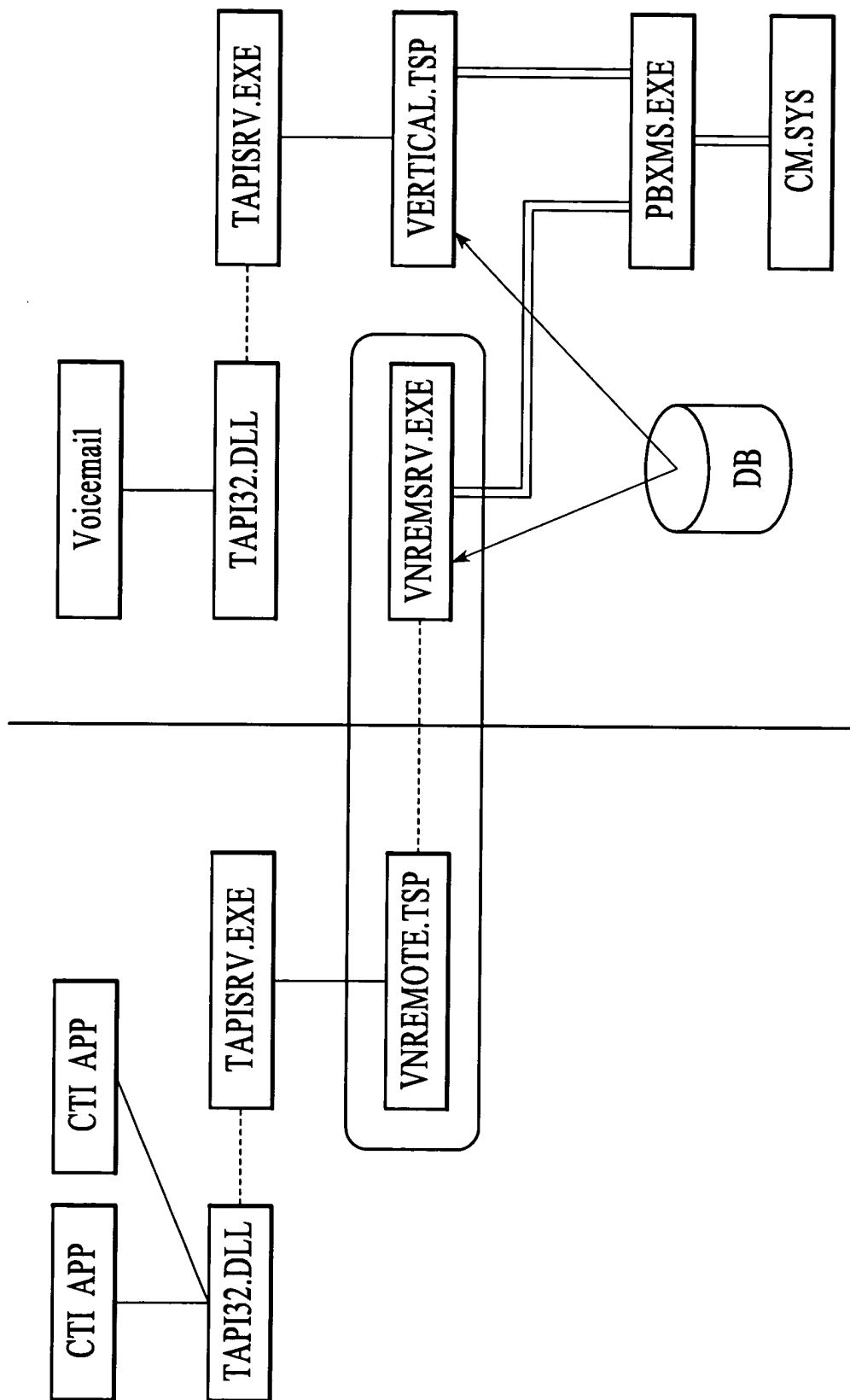


FIG. 24

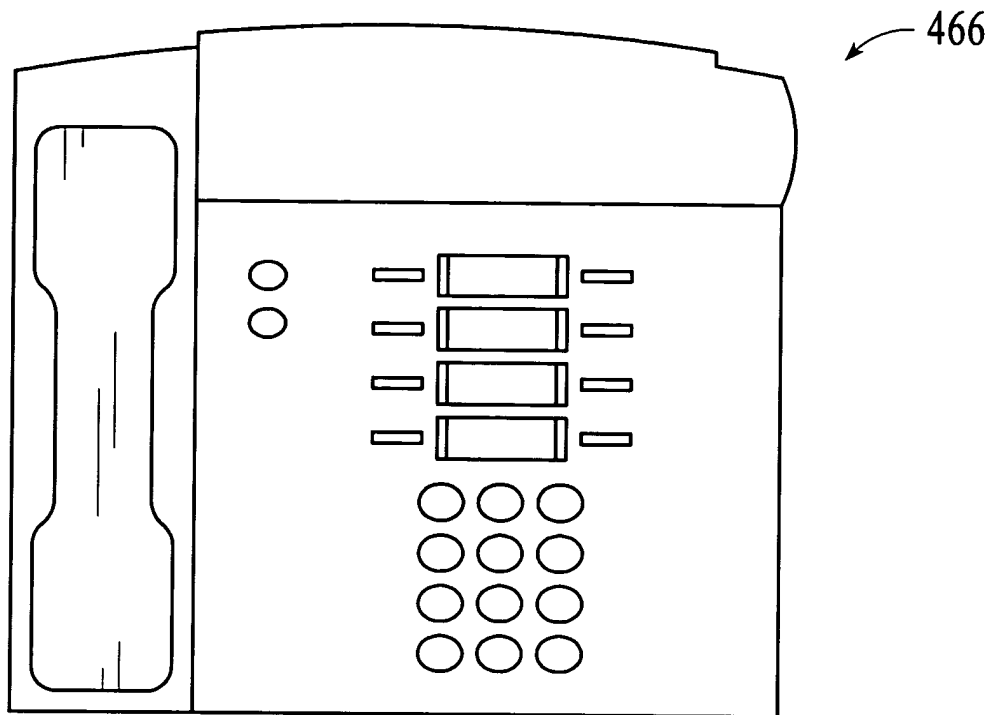


FIG. 25

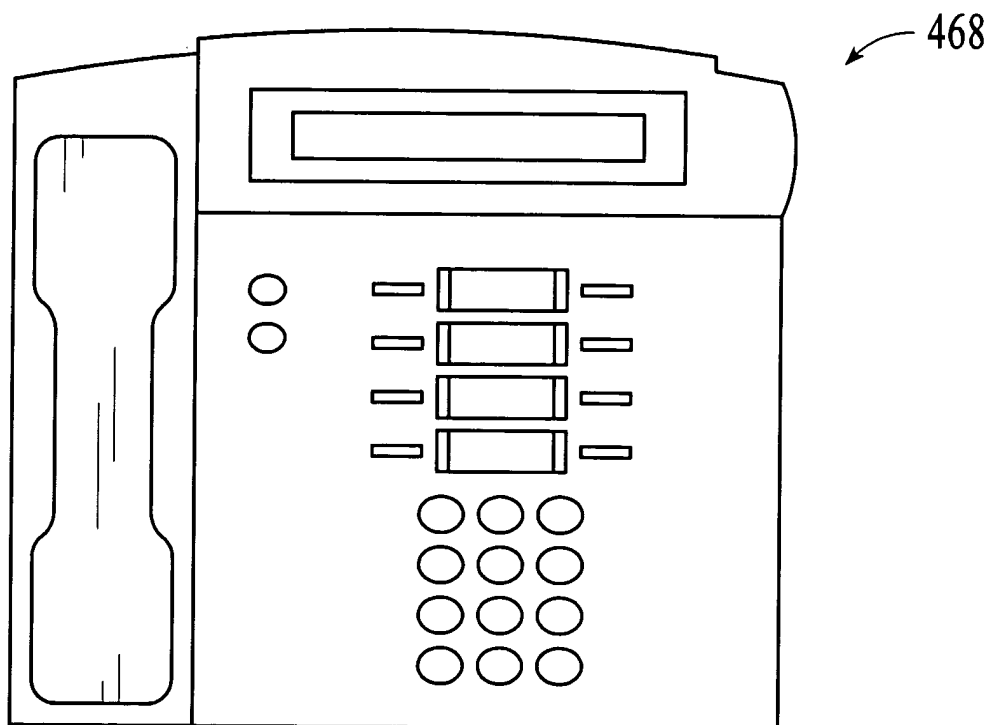


FIG. 26

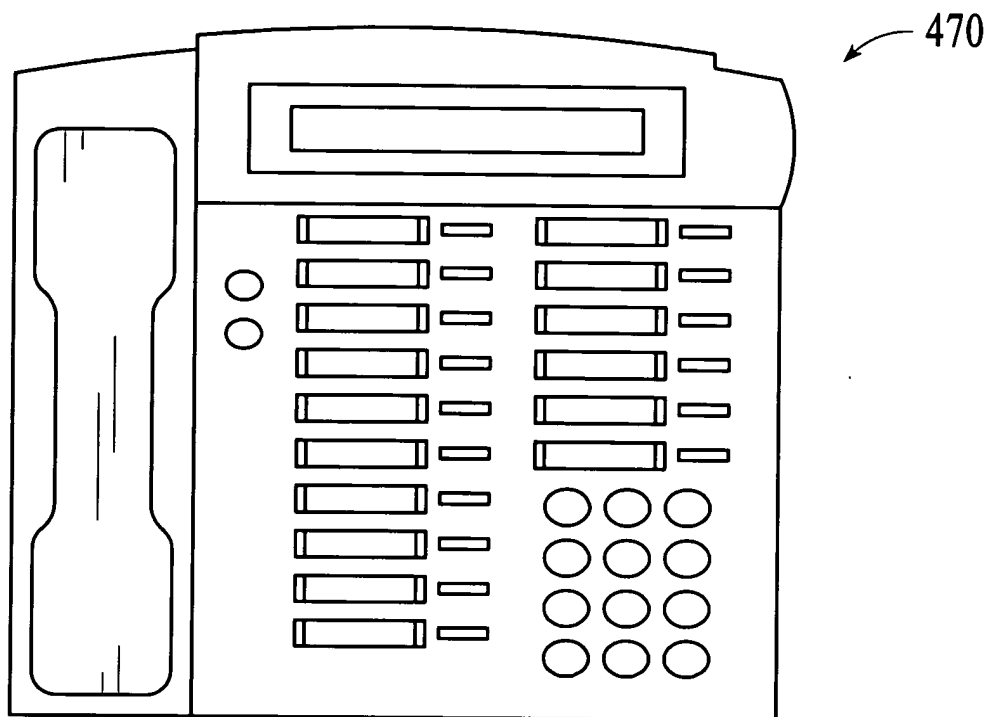


FIG. 27

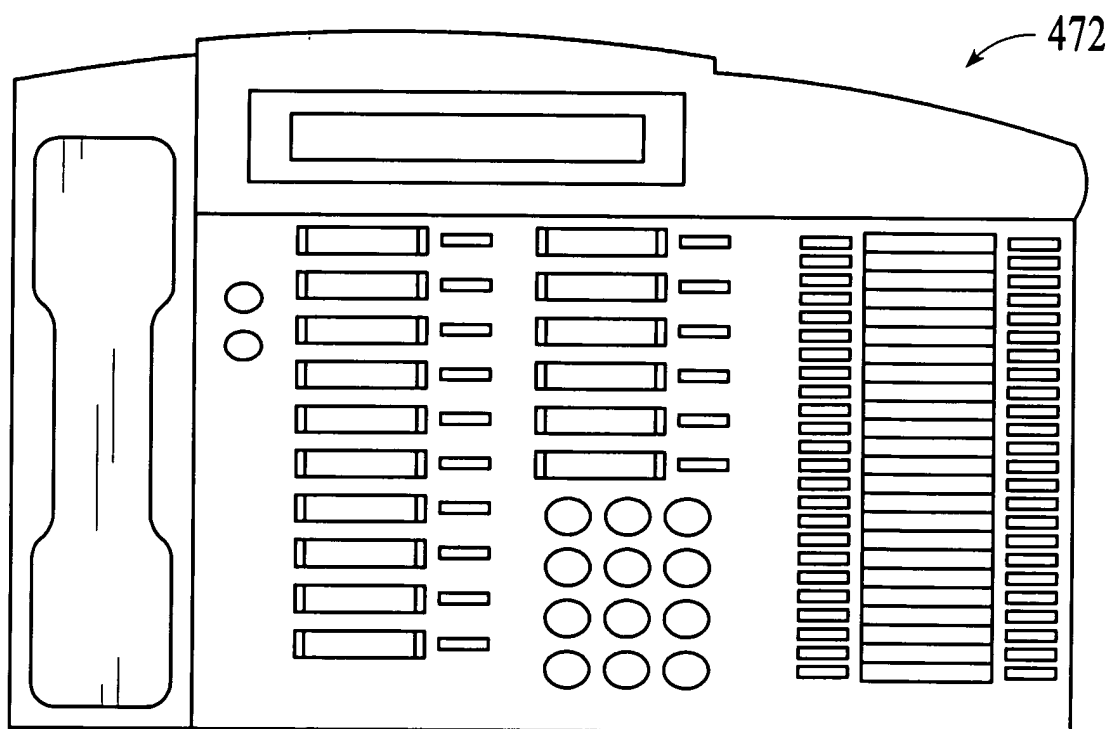


FIG. 28

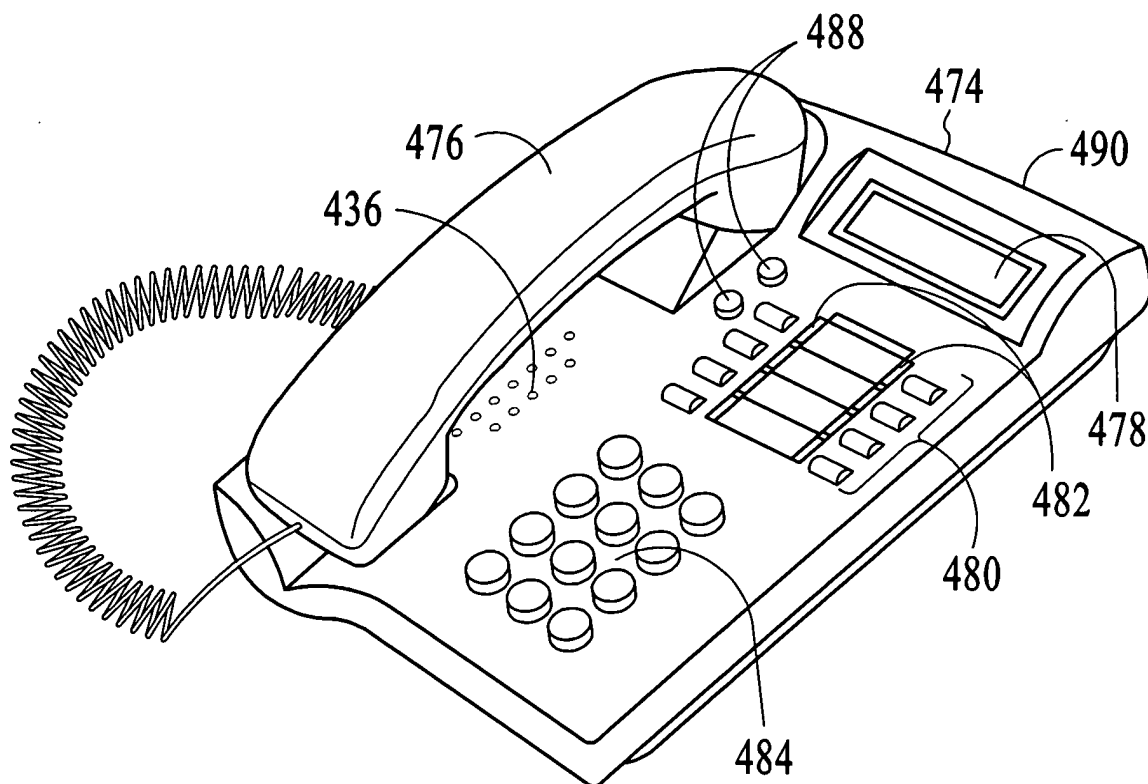


FIG. 29



Configure User

Display Name: Marina Smith 494

Extension: 889 496

504

OverviewTelephoneForwardingPickup Group

Slot/Ports: Slot 1 (Digital) ▼ Port 9: Marina Smith ▼

Access Profile: Unrestricted ▼

Language: (User System Default) ▼

Telephone Usage

☐ Attendant Telephone

☐ Ring Down Hotline Telephone

☒ Normal Telephone

External Caller ID

☒ Use the Default as Configured in General Settings

☐ Use this Number

☐ Use the Company's Main Number



☐ Send No Information

OKCancelHelp

492493500502

FIG. 30



 **Configure User** 


Display Name:

Extension:

506

Overview Telephone Forwarding Pickup Group

Select the telephone type from the list of supported telephone types below. The available choices may be limited by the hardware of the Slot/Port you have selected on the Overview tab.

 508

Would you like to enable the telephone set?


☐ Yes

☒ No

510

Select the template from the list below. The available choices are determined by the telephone type you have selected above. For digital telephones the "Customize" button allows you to modify the programmable settings on the telephone.

512

 514

Features

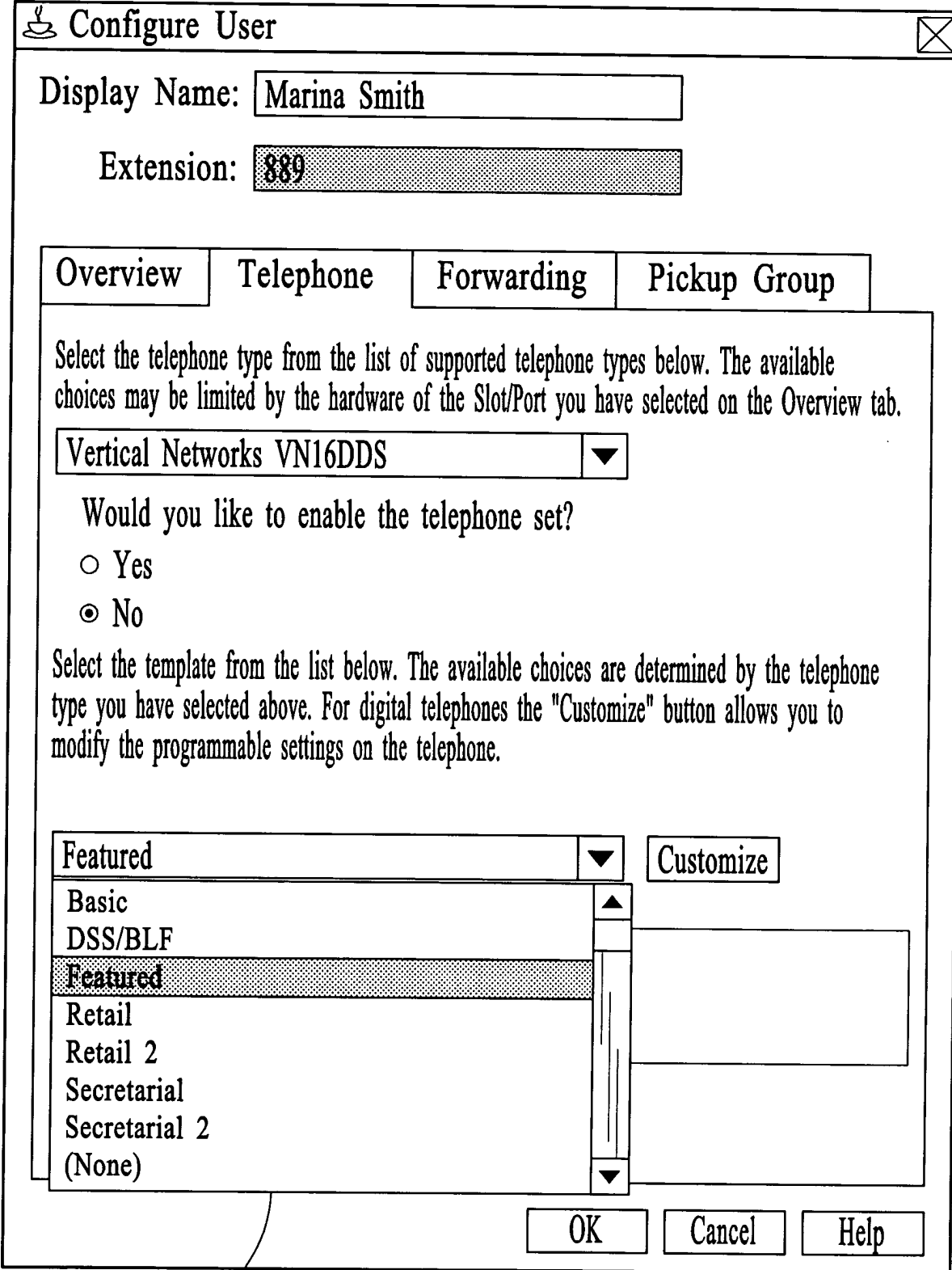
☐ Do Not Disturb

☒ Call Waiting

516

493 500 502

FIG. 31



The image shows a 'Configure User' dialog box with a title bar containing a small icon and a close button. The dialog has two input fields at the top: 'Display Name' with the text 'Marina Smith' and 'Extension' with the text '889'. Below these are four tabs: 'Overview', 'Telephone', 'Forwarding', and 'Pickup Group'. The 'Telephone' tab is selected. The main content area of the 'Telephone' tab contains a text box with the text 'Vertical Networks VN16DDS' and a dropdown arrow. Below this is a question 'Would you like to enable the telephone set?' with two radio buttons: 'Yes' and 'No', where 'No' is selected. Below the radio buttons is another text box with the text 'Featured' and a dropdown arrow. To the right of this text box is a 'Customize' button. Below the 'Featured' text box is a list box containing the following items: 'Basic', 'DSS/BLF', 'Featured' (which is highlighted with a shaded background), 'Retail', 'Retail 2', 'Secretarial', 'Secretarial 2', and '(None)'. To the right of the list box is a large empty rectangular area. At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Help'.

Configure User

Display Name: Marina Smith

Extension: 889

Overview Telephone Forwarding Pickup Group

Select the telephone type from the list of supported telephone types below. The available choices may be limited by the hardware of the Slot/Port you have selected on the Overview tab.

Vertical Networks VN16DDS

Would you like to enable the telephone set?

☐ Yes

☒ No

Select the template from the list below. The available choices are determined by the telephone type you have selected above. For digital telephones the "Customize" button allows you to modify the programmable settings on the telephone.

Featured

Basic

DSS/BLF

Featured

Retail

Retail 2

Secretarial

Secretarial 2

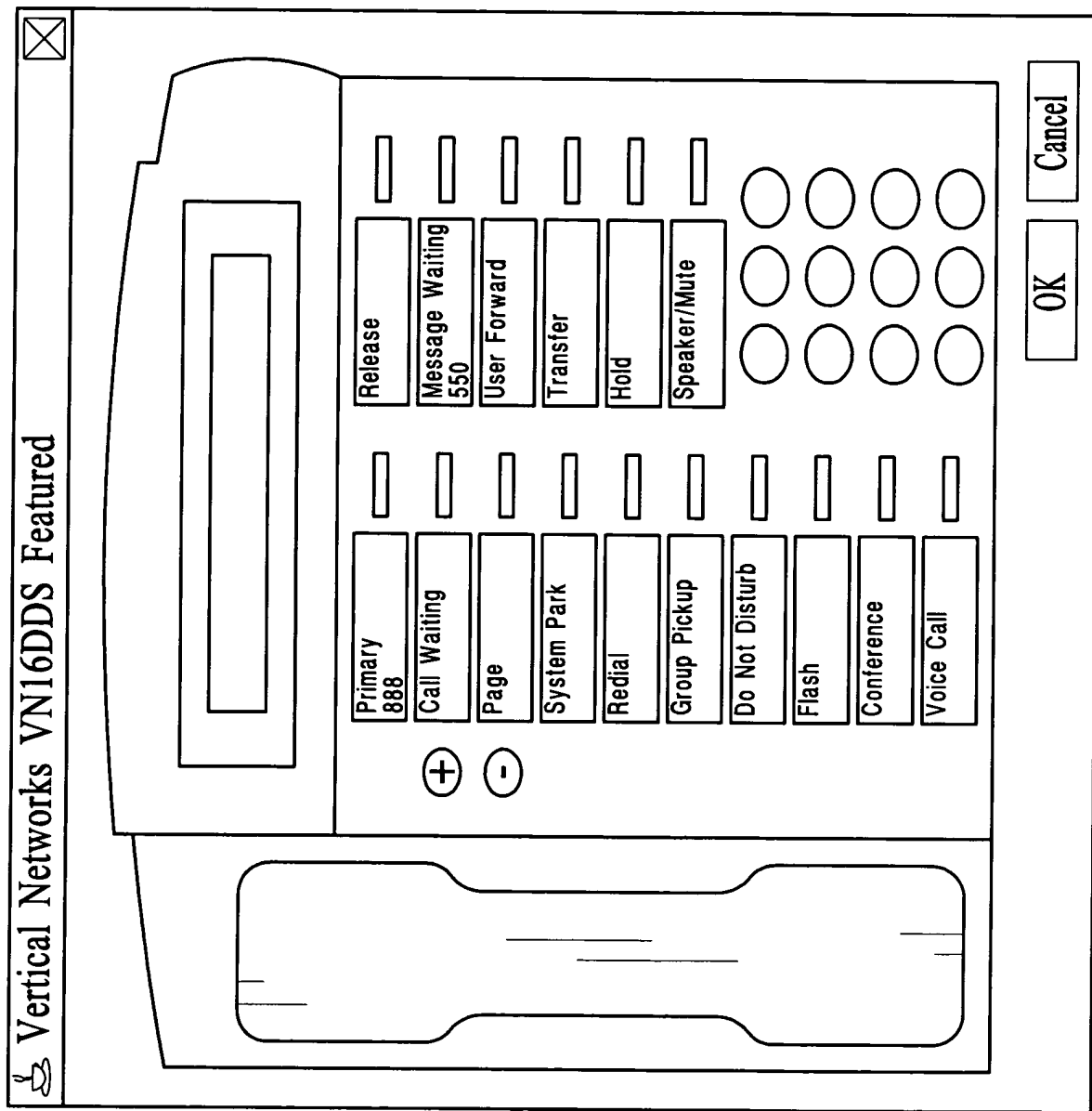
(None)

Customize

OK Cancel Help

512

FIG. 32



518

FIG. 33

OIPE
 NOV 05 7
 TRA.

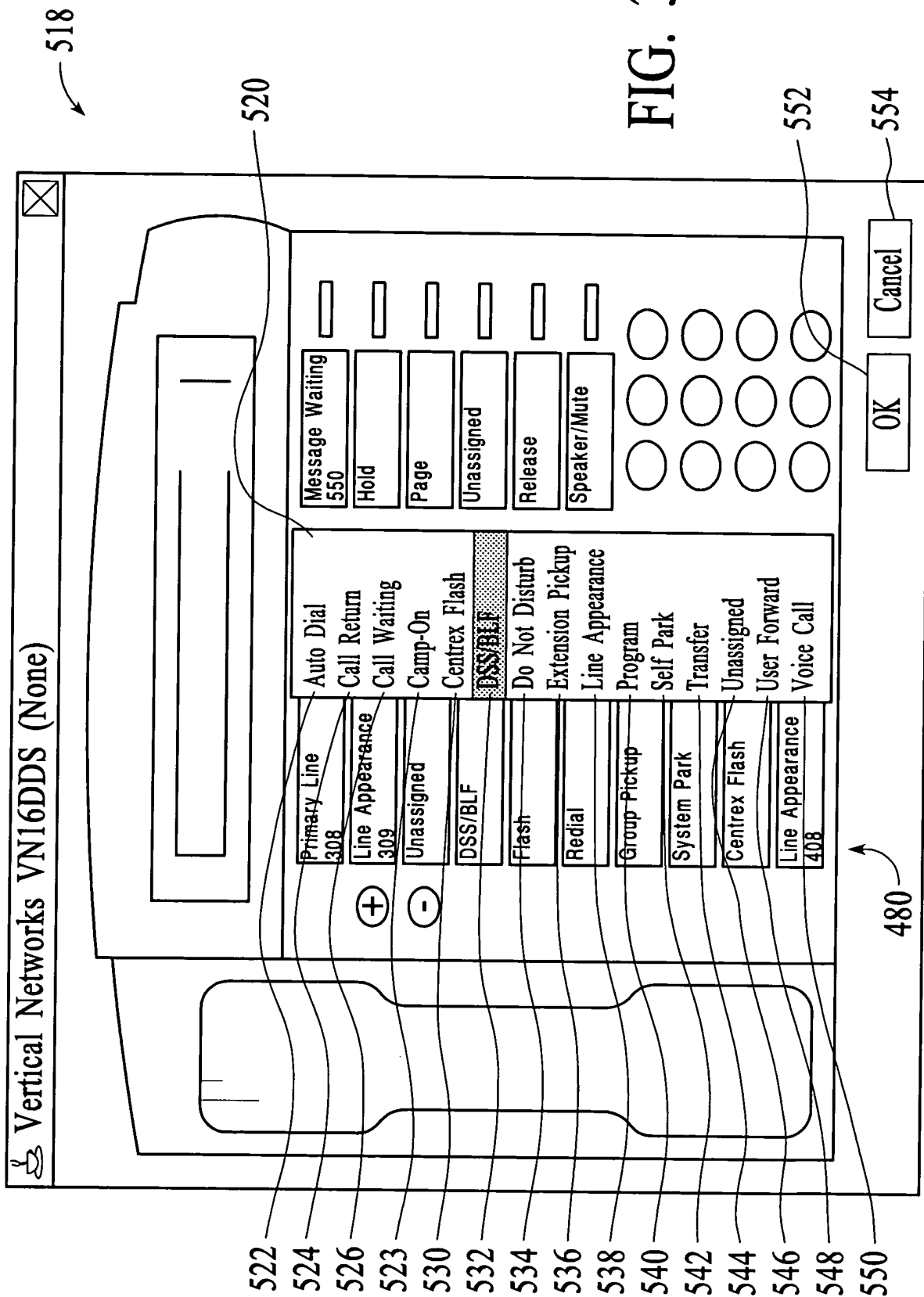


FIG. 34



Feature Button Configuration

Feature : DSS/BLF

Extension:

Additional Settings

☐ Blind Transfer

OK Cancel

Centrex Flash

Line Appearance 408



Unassigned User Forward Voice Call

OK Cancel

558 560 561 562 564 566

FIG. 35



 Feature Button Configuration 

Feature :

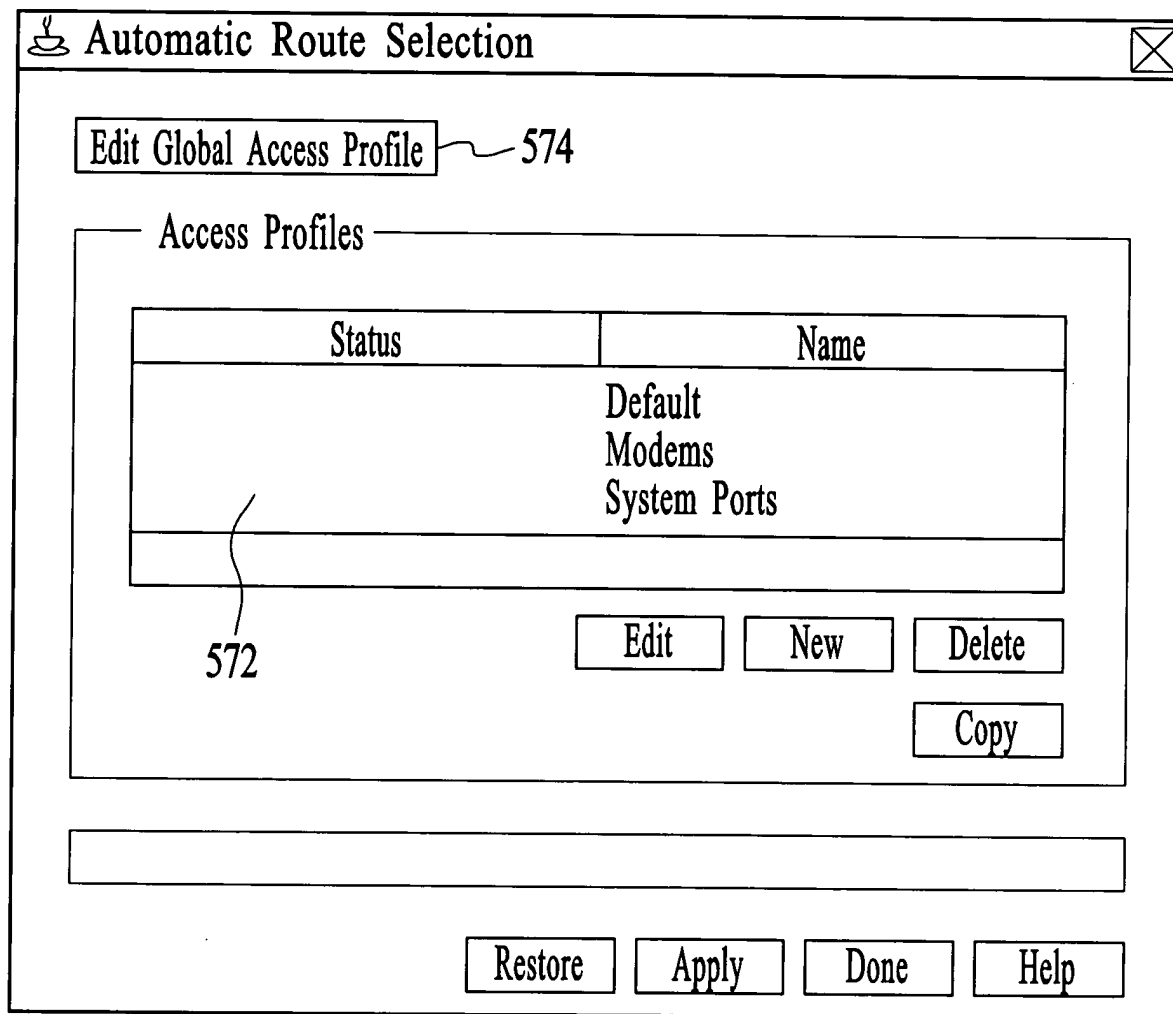
Telephone Number :

Additional Settings

- ☐ Do Not Ring the Telephone
- ☐ Do Not Receive Paging
- ☐ OffHook Ring
- ☒ Mute Microphone when Voice Calls are Received

561

FIG. 36



570 ↗

FIG. 37

O I F E J
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PATENT & TRADE

VNI-018 55/77

Global Access Profile



Area Code Table	Off Premise Extension Table	Special Digits Table
Initial Digits	Routing Table	Intercept Target
911	Route 2	
5853204	Intercepted --> ▼	550
	Intercepted -->	
	Blocked	
	Route 2	
	Route 1	
	(New Routing Table)	

Edit Routing Table New Delete

OK Cancel

FIG. 38A



 Access Profile 

Name:



Area Code Table Privileges Trunk Group Access Codes

Area Code	Office Code Range	Routing Table
212	Default	Local Calls
408	Default	Acme West
Default	Default	*Blocked* ▼
		Blocked
		Acme West
		3xx Offpremise
		Modems Route
◀		Local Calls
		(New Routing Table)

FIG. 38B

FIG. 38C



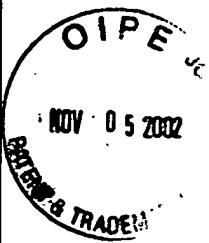
 Access Profile 



Name:

Area Code Table Privileges Trunk Group Access Codes

Area Code	Office Code Range	Routing Table
212	Default	Local Calls
408	Default	Acme West
Default	Default	*Blocked* ▼
		Blocked
		Acme West
		3xx Offpremise
		Modems Route
◀		Local Calls
		(New Routing Table)


FIG. 39A



 Access Profile 

Name:

Area Code Table Privileges **Trunk Group Access Codes**

International (011) Routing Table: 




Carrier Access Code Destination: 

FIG. 39B




 Access Profile 

Name:

Area Code TablePrivilegesTrunk Group Access Codes

Access Code	Permission Allowed
83	<input checked="" type="checkbox"/>
80	<input checked="" type="checkbox"/>
82	<input checked="" type="checkbox"/>
84	<input checked="" type="checkbox"/>
81	<input type="checkbox"/>
<div></div>	

FIG. 39C


 Routing Table

Name: Local Calls

Step	Strip First n Digits	Keep Last n Digits	Prepend Digits	Postpend Digits	Destination	Service Code	Up Down
1		3			T1 Interface...	Default	
2	0				T1 Interface...	Custom	
3	0		9		Voice An... ▼	N/A	
					Testing		
					T1 Interface 1		
					T1 Interface 2		
					Modems		
					DID Digital		
					DID Analog		
					Voice Digital		
					Voice Analog		

New Delete

OK Cancel

FIG. 40

First Digit Table

First Digits

Local Area Codes

Digit (Type)

0 (Attendant)

1 (Extension)

2 (Extension)

3 (Extension)

4 (Not Configured)

5 (Extension)

6 (Not Configured)

7 (Not Configured)

8 (External)

9 (External)

Digit Type: External

Additional Settings

○ One-Digit

○ Two-Digit

Access Code	Routing	Collect Digits	Dialtone
80	T1 Interface 1	3	<input checked="" type="checkbox"/>
81	T1 Interface 2	5	<input checked="" type="checkbox"/>
82	Voice Digital	4	<input checked="" type="checkbox"/>
83	Voice Analog	24	<input checked="" type="checkbox"/>
84	Outbound Routing	NANP	<input checked="" type="checkbox"/>
85	Testing	NANP	<input checked="" type="checkbox"/>
86	Not Configured	5	<input checked="" type="checkbox"/>
87	Not Configured	6	<input checked="" type="checkbox"/>
88	Not Configured	7	<input checked="" type="checkbox"/>
89	Not Configured	8	<input checked="" type="checkbox"/>
		9	
		10	
		11	
		12	

Restore

Apply

Done

Help

FIG. 41



✕

First Digit Table

First Digits

Local Area Codes

Local Area Codes

Add

Remove

1212
212

Home Area Code:

212 ▾

Restore

Apply

Done

Help

FIG. 42



General Settings

Voice Mail (Limits)	Voice Mail (Interaction)	Fault Monitor
System	PBX	PBX (Advanced)

Audio

☒ Enable Music on Hold

☒ Enable Public Address

External Caller ID

Prefix Digits: 4082337xxx

Default External Caller ID Format (for calls initiated by stations)



☐ Company Name and Main Number

☒ Station Name and Prefix Digits + Extension Number

☐ None

Restore Apply Done Help

FIG. 43A

 Voice Trunk Group 

Name:

Direction: ☐ In ☐ Out ☒ Both

Caller ID Format —

- ☒ Send Internal Caller ID (as received in tandem calls)
- ☐ Send External Caller ID (as received in tandem calls)
- ☐ Send Company Main Number
- ☐ Do Not Send Caller ID

Hunt Type —



☒ Linear ☐ Circular

FIG. 43B

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 Configure Station 

Extension:



Display Name:


Overview


Features

Forwarding

Pickup List

Card/Port:  

Access Profile: 

Language: 

☐ Attendant Phone

☐ Ring Down/Hotline

☐ Neither

External Caller ID

☒ Use the default as configured in General Settings

☐ Use this number:

☐ Append extensions to the default DID pattern

☐ Use the company's main number

☐ Send no information

OK

Cancel

FIG. 43C

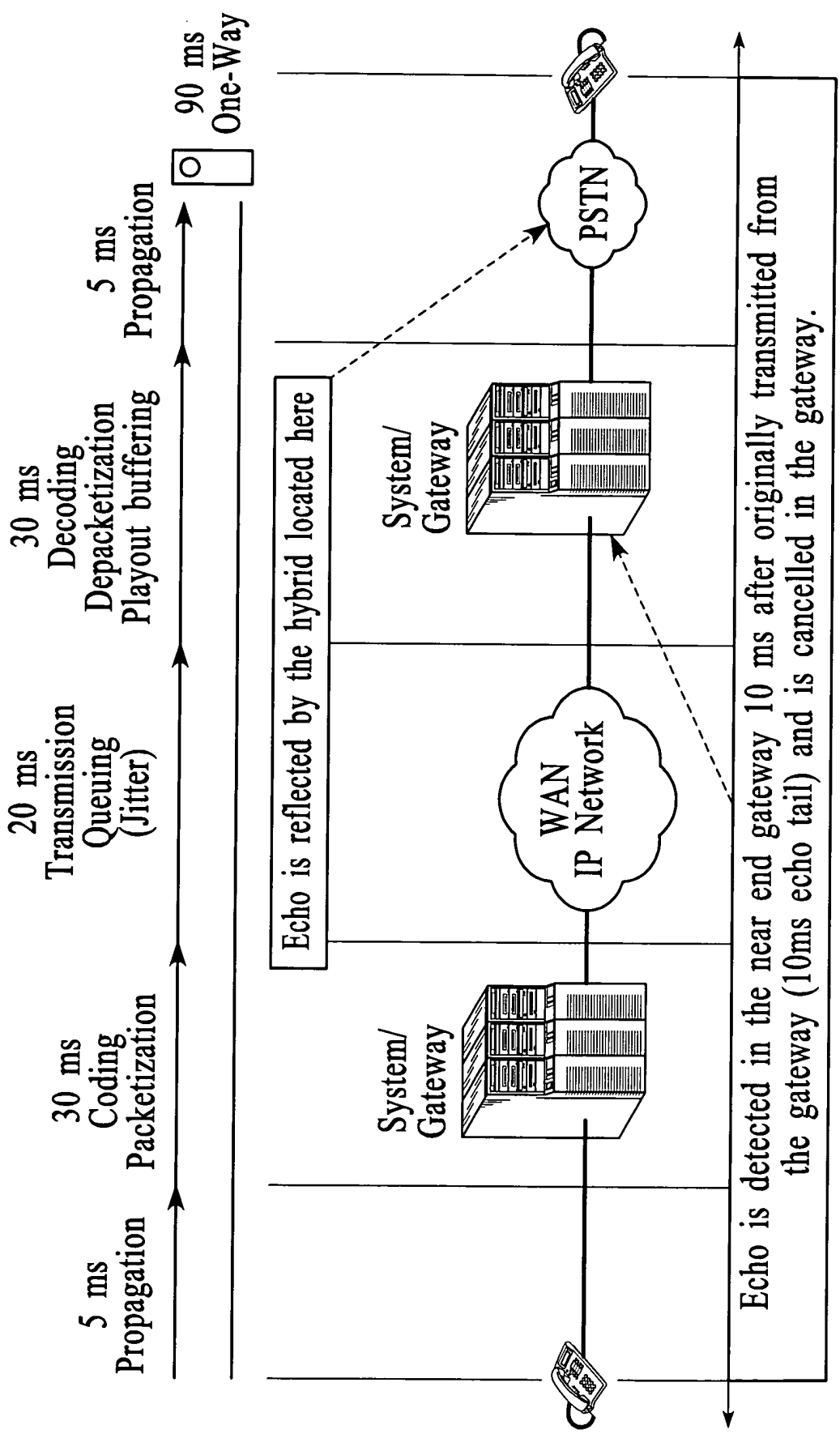


FIG. 44

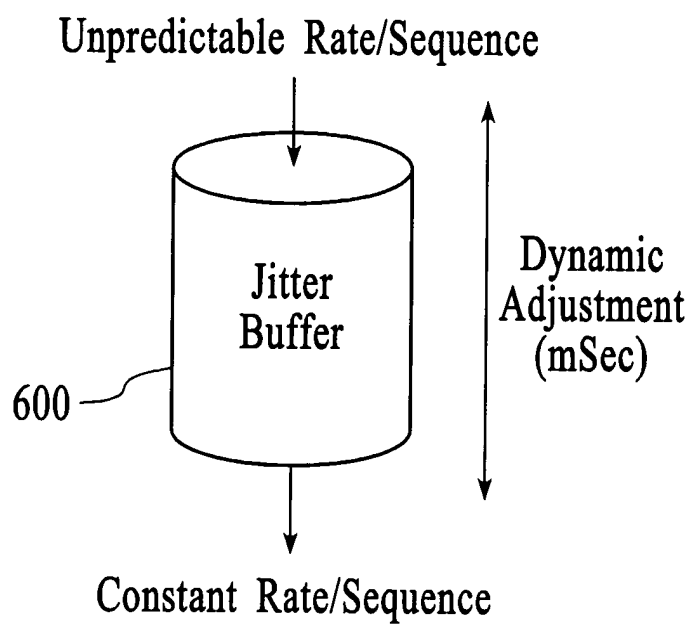


FIG. 45

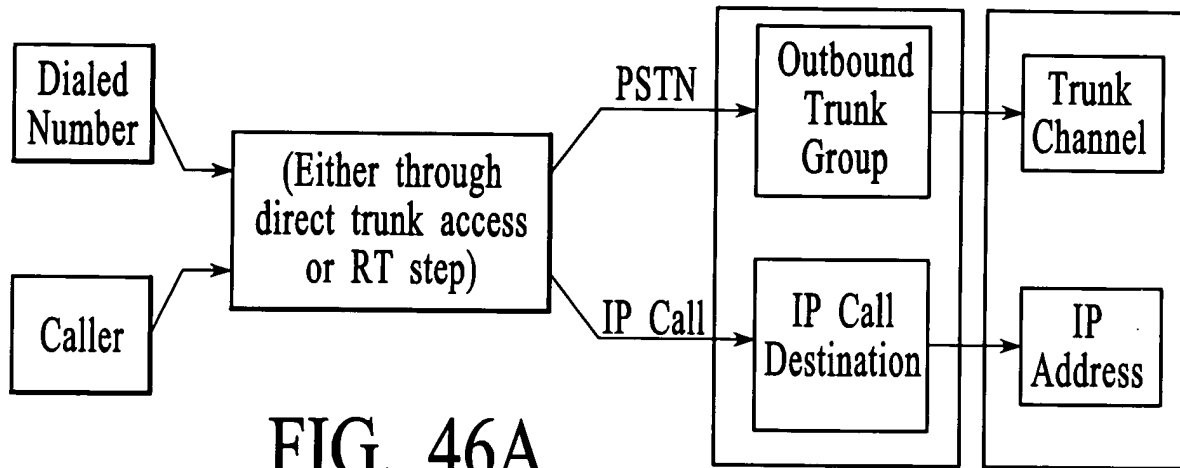


FIG. 46A

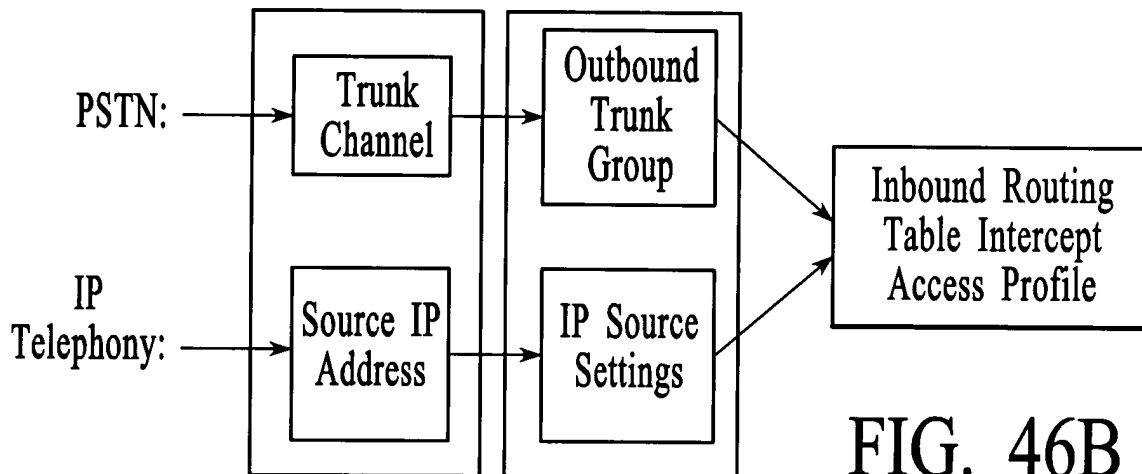


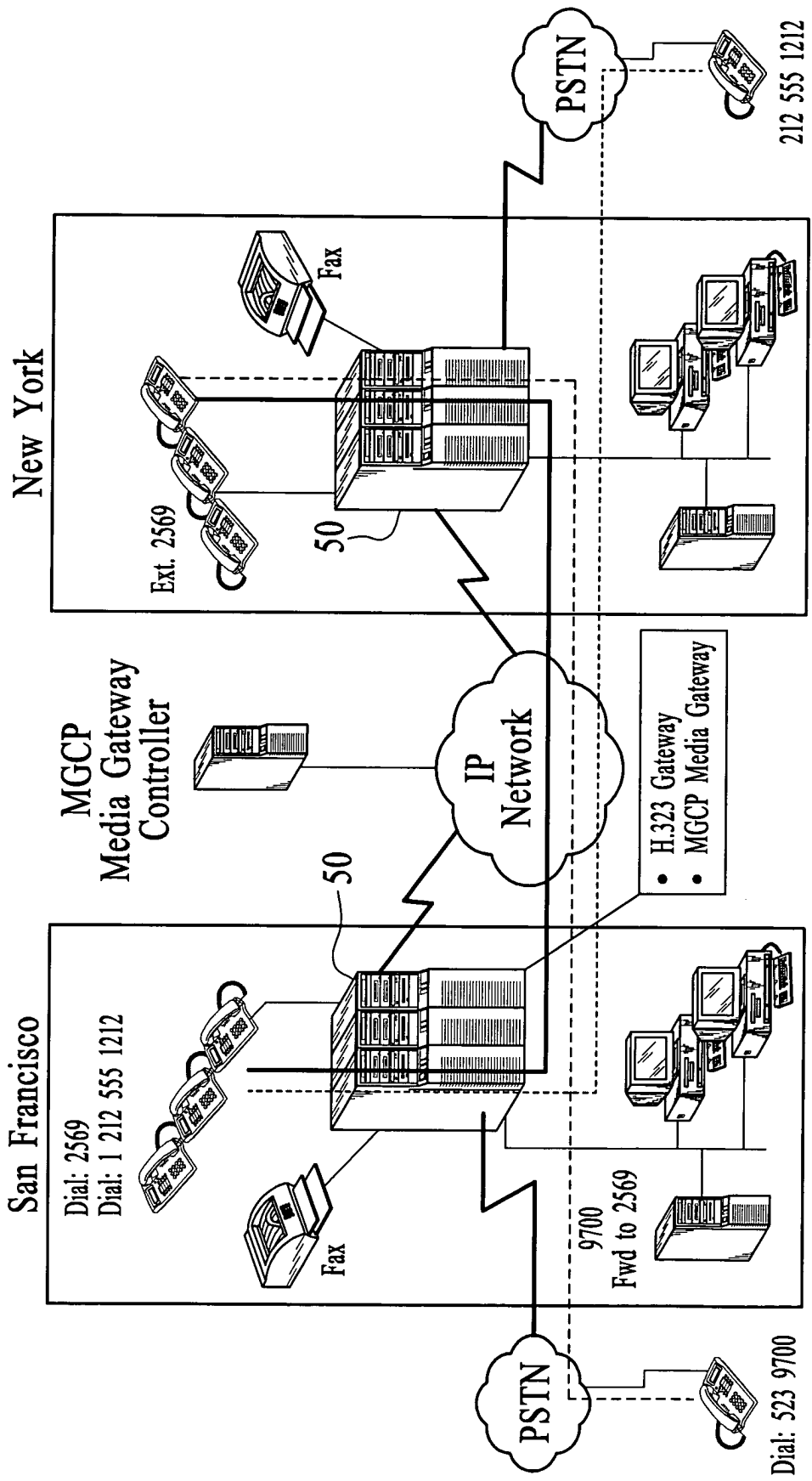
FIG. 46B

☞ Routing Table							☒
Name: <input type="text" value="To Mustang"/>							
Step	Strip First n Digits	Keep Last n Digits	Prepend Digits	Postpend Digits	Destination	ISDN Settings	<input type="button" value="Up"/> <input type="button" value="Down"/>
1	0				IP Mustang	N/A	
2	0				Voice Digital	N/A	
3	0				Voice Analog	N/A	

FIG. 46C

FIG. 47A

- Extension to extension (Uniform Dialing)
- - - Extension to external telephone (toll bypass)
- - - External telephone to extension



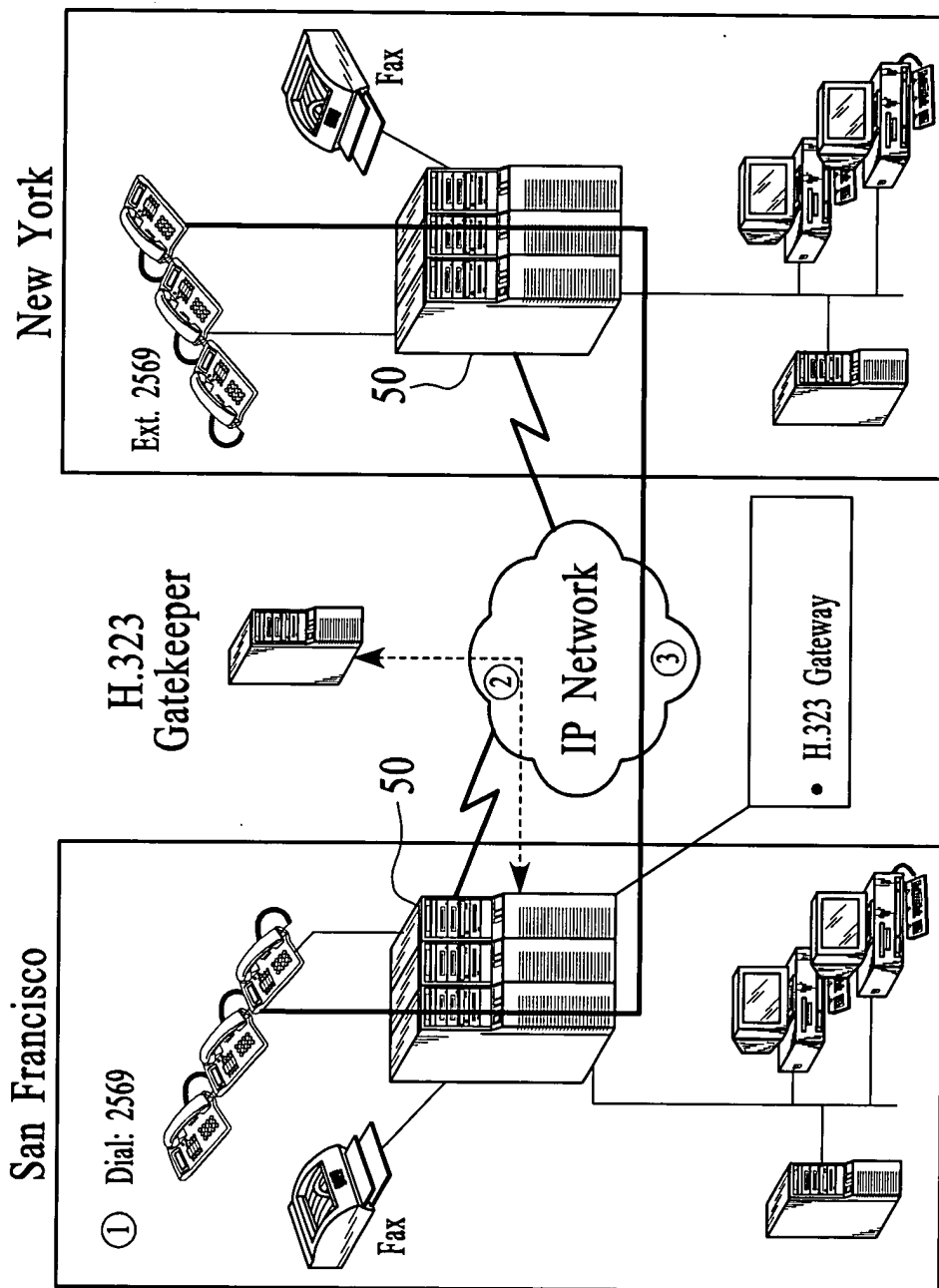


FIG. 47B

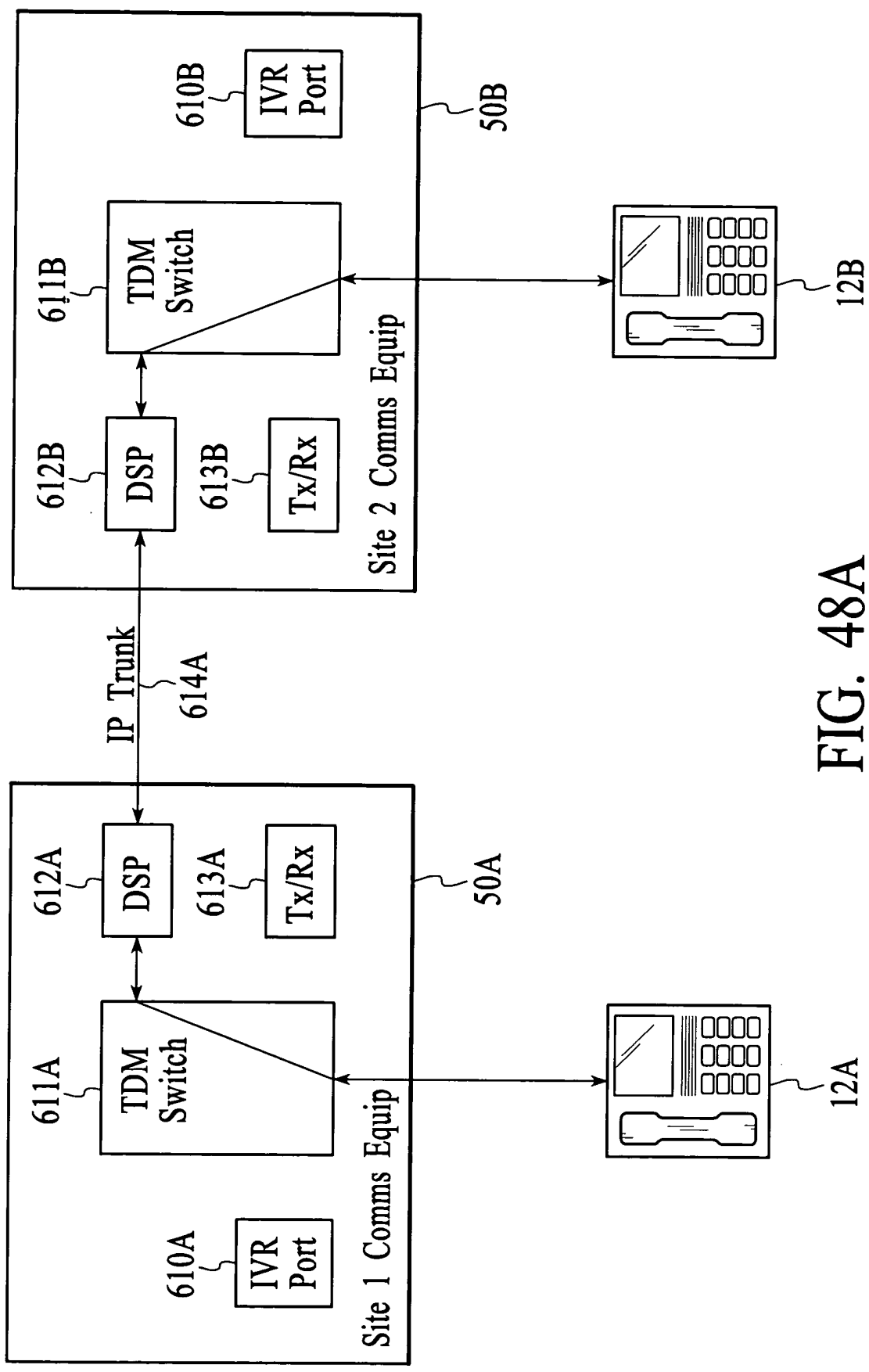


FIG. 48A

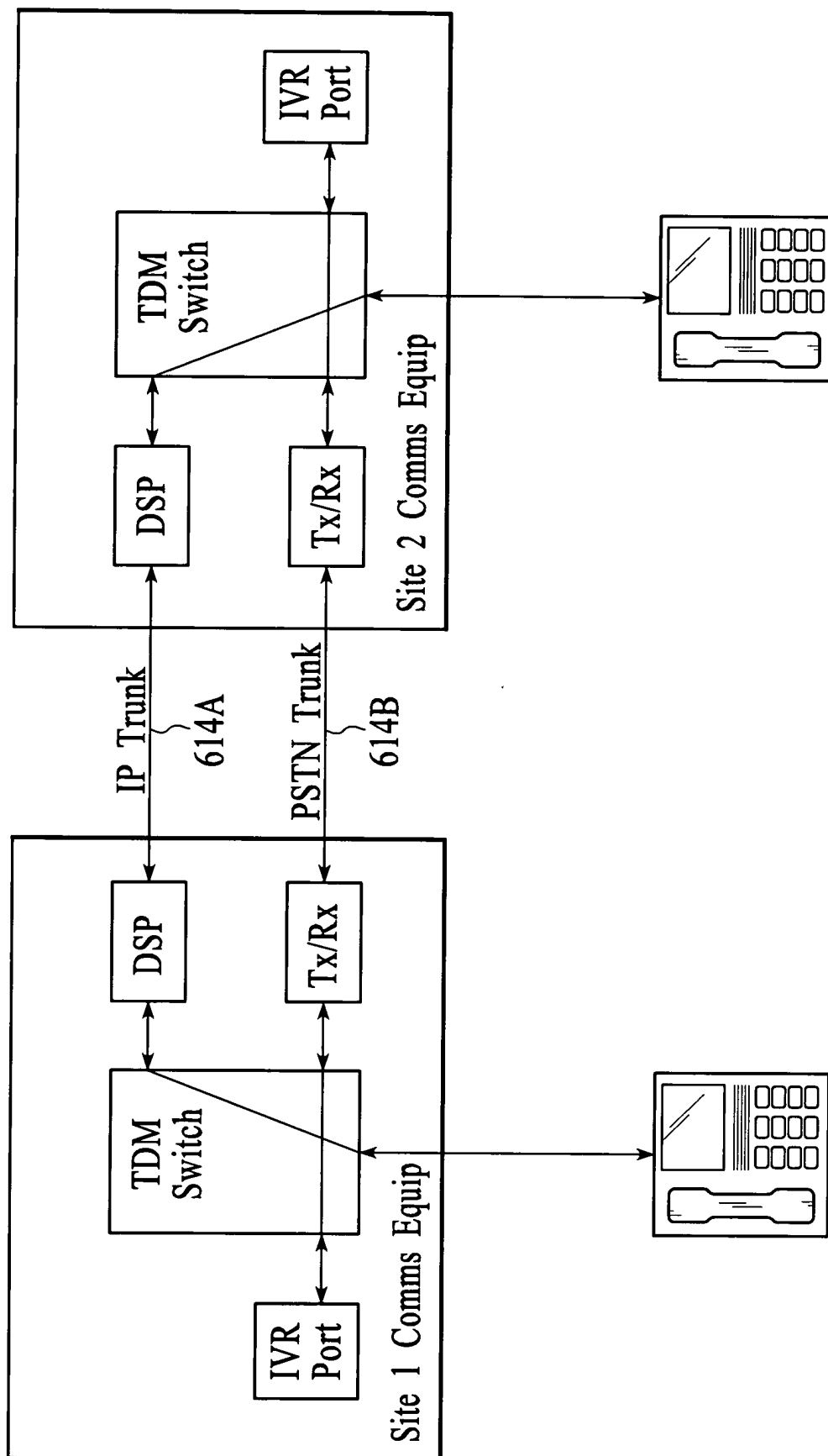


FIG. 48B

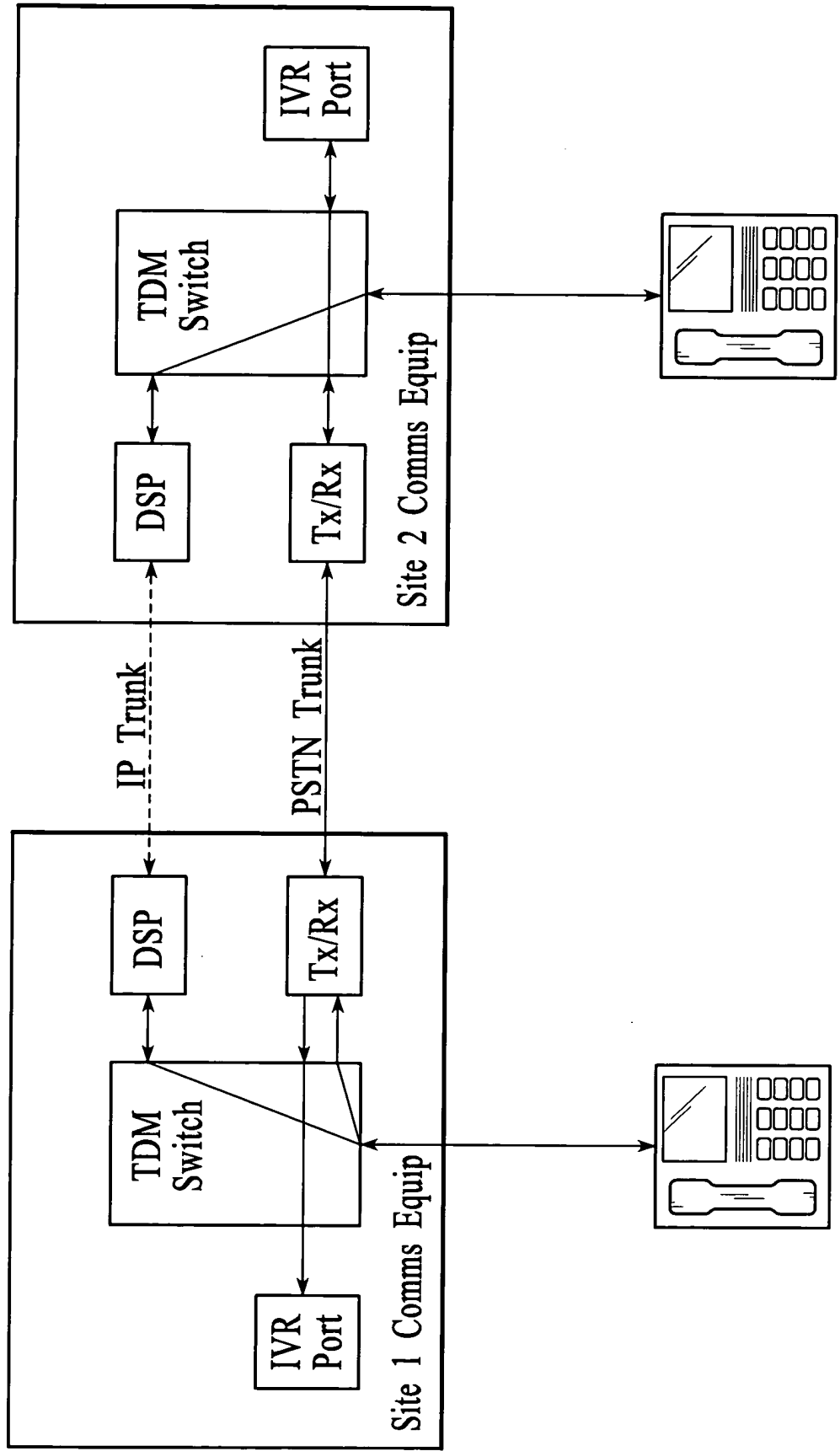


FIG. 48C

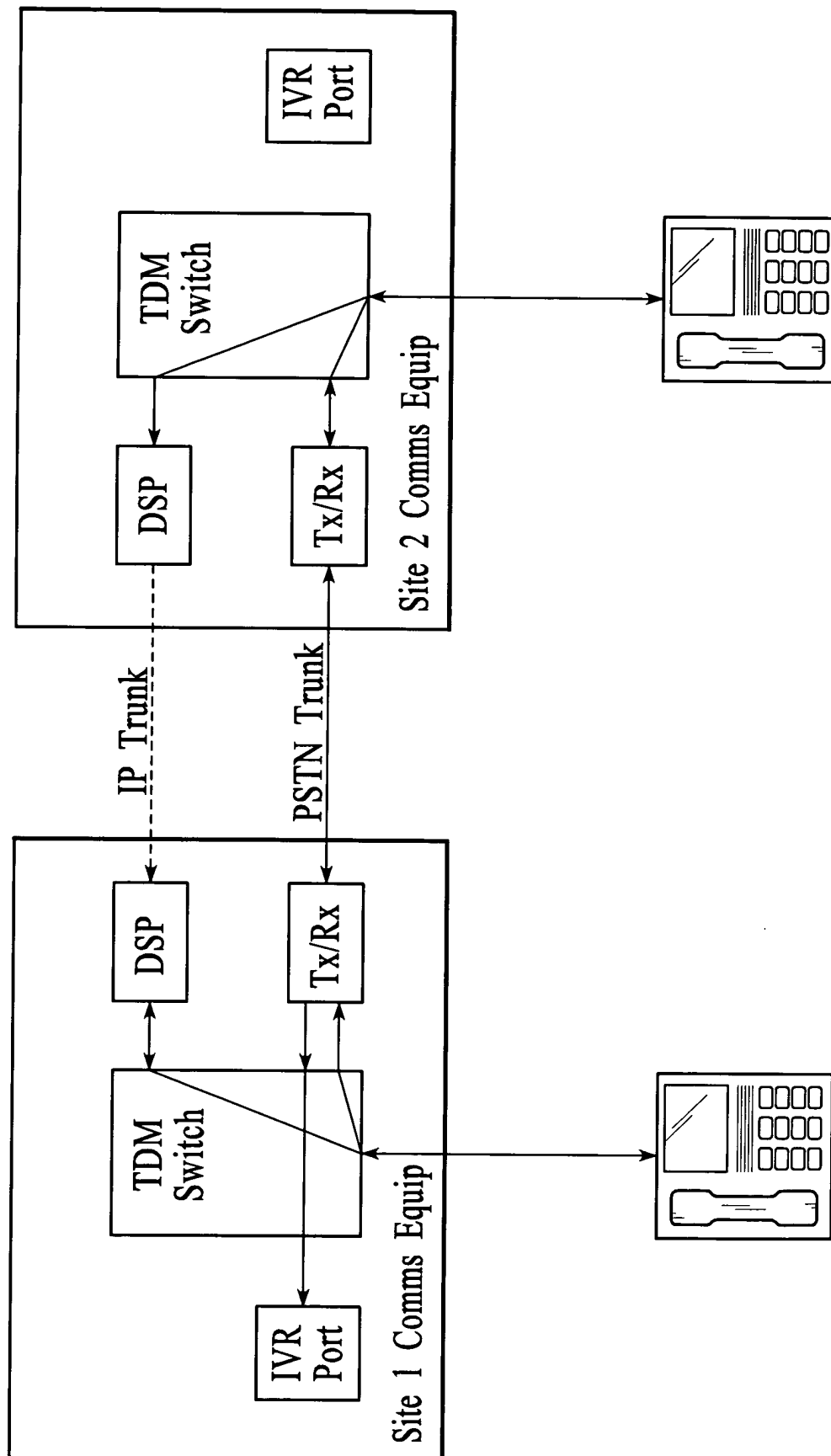


FIG. 48D

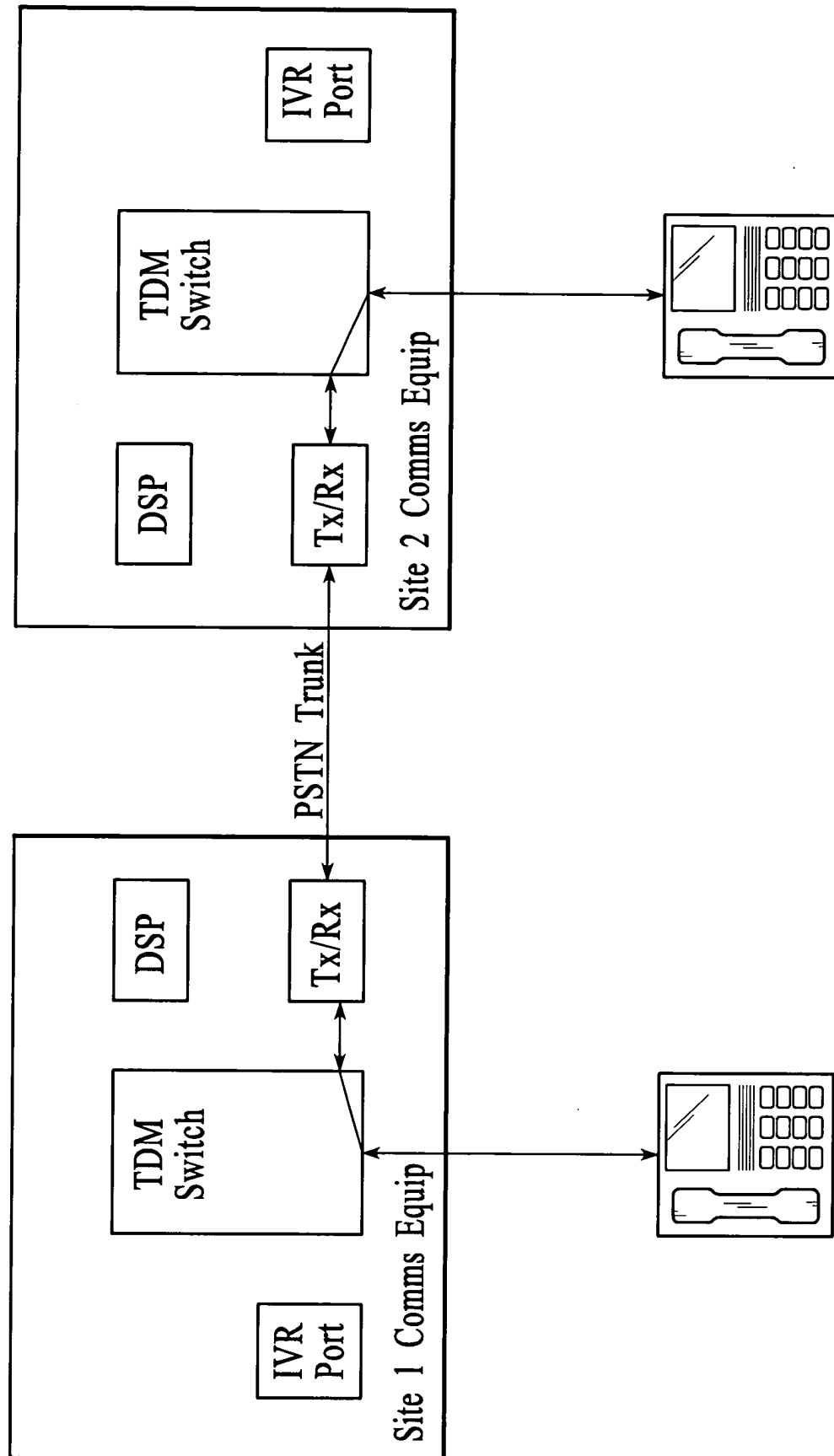


FIG. 48E

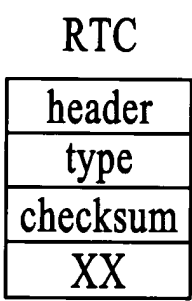


FIG. 49A

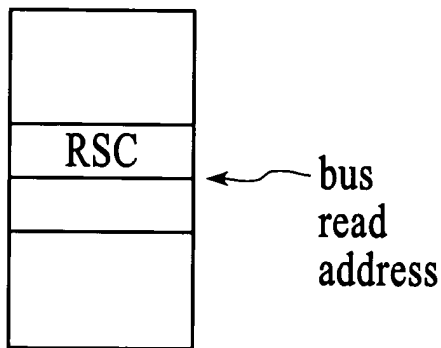


FIG. 49D

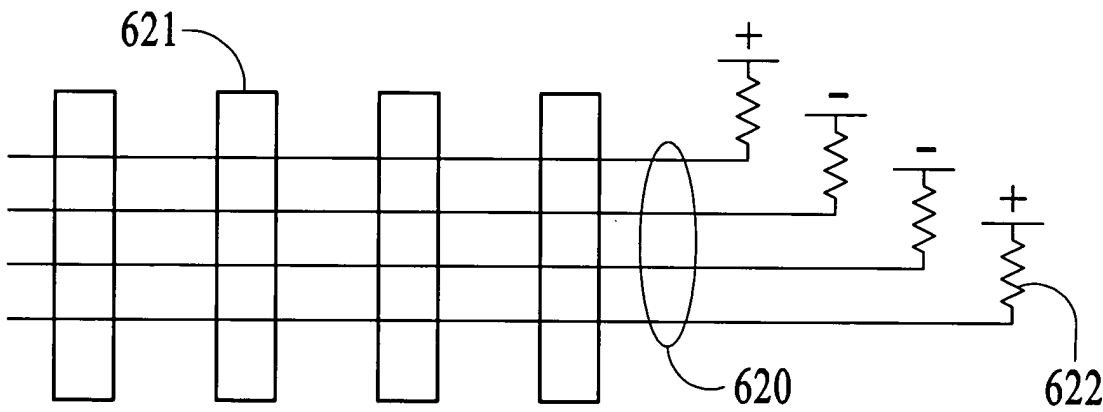


FIG. 49B

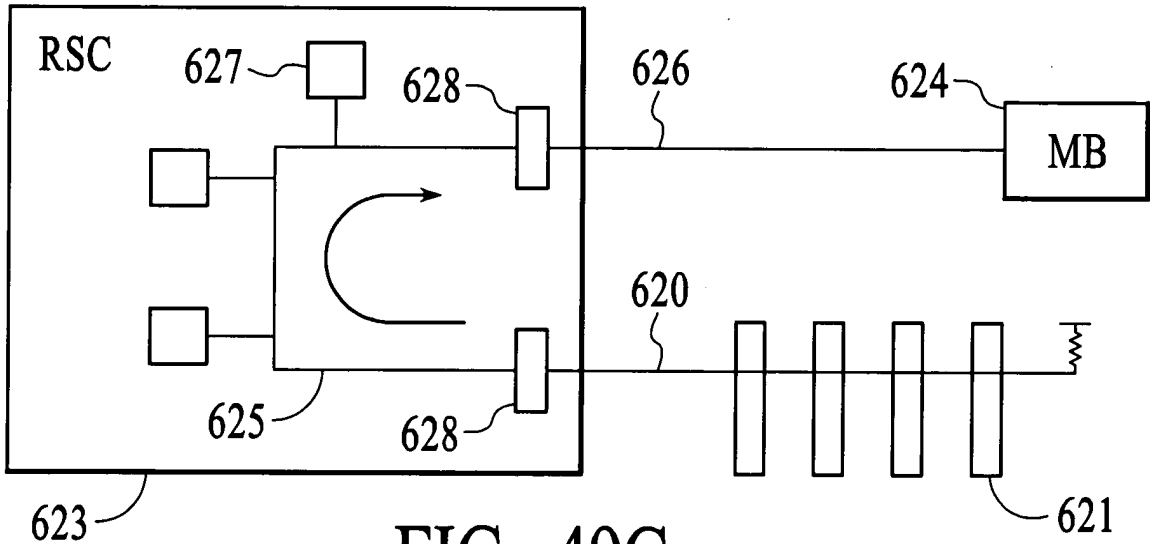


FIG. 49C